

CODE VIOLATION PROJECT

Gilead Hill School
580 Gilead Street
Hebron, Connecticut

PROJECT MANUAL

STATE PROJECT NO. 067-0045 CV

ARCHITECT'S PROJECT # 2024-021B/C

ISSUED FOR BID
1/26/2026

ARCHITECT

Friar Architecture, Inc.
21 Talcott Notch Road
Farmington, CT 06032

ELECTRICAL ENGINEER

RZ Design Associates, Inc.
750 Old Main Street, Suite 202
Rocky Hill, CT 06067

ENVIRONMENTAL

Eagle Environmental, Inc.
150 Main Street, Suite B
Bristol, CT 06010

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TOWN of HEBRON**Legal Notice Bid #2026-08****CODE VIOLATION PROJECT****GILEAD HILL ELEMENTARY
580 GILEAD STREET
HEBRON, CONNECTICUT**

The Town of Hebron is seeking sealed bids for **Code Violation Project, Gilead Hill Elementary, 580 Gilead Street, Hebron, CT**. Bid Documents are available and posted on the Town of Hebron's website and can be accessed at <https://hebronct.com/bids/>

All bids must be sealed and must be received at the Town Manager's Office prior to the due date. Bids will be submitted to Andrew J. Tierney, Town Manager, Town Office Building, 15 Gilead Street, Hebron CT 06248. Proposals shall include one (1) printed original and six (6) printed copies and one (1) digital proposal. All bids are due no later than **February 20, 2026 at 10:00 a.m.** Bids must be in a sealed envelope and clearly marked "**Bid# 2026-08, Code Violation Project, Gilead Hill Elementary, 580 Gilead Street, Hebron, Connecticut**" on the outside of the envelope. The bids will be opened publicly and read aloud at the Town Office Building.

The Specifications include **(abatement, firestopping systems, ceiling and lighting work)**

There will be a **Non-Mandatory Pre-Bid meeting held at Gilead Hill Elementary, 580 Gilead Street, Hebron, CT on Monday and Tuesday, February 16 & 17, 2026 at 9:00 A.M.**

Bidders are not required to attend but are encouraged to attend to familiarize themselves with the Project Site.

Any questions can be directed to **Andrew J. Tierney** 860 228-5971 ext. 122, but **preferably by email to atierney@hebronct.gov**. The Town of Hebron will award the bid to the lowest responsible bidder and reserves the right to waive any technical defects in the bids and to reject any bids which do not conform to the terms and conditions in the bid specifications.

The Town of Hebron also reserves the right to reject any or all bids and waive the informalities or irregularities in the bid procedure or bids when it is deemed by the Town Council that it is in the best interest of the Town to reject.

After opening of Bids, all Bids shall stand available for acceptance for a period of ninety (90) days.

Bid security in the form of a certified check or bid surety bond, issued by a bonding company licensed to do business in the State of Connecticut, is required in the amount of 10% of base bid. Bid security shall be made payable to the Town of Hebron.

A completed Statement of Bidders Qualifications (Section 00600) shall accompany the bid.

The successful Bidder shall furnish to the Town of Hebron on the form specified, prior to the execution of the Contract, a performance and labor and material payment bond in an amount not less than one hundred percent (100%) of the Contract sum.

The classification for which Contractors are being sought are Asbestos Removal, Fireproofing, General Building Construction (Group A), and Electrical.

The Town of Hebron is an Affirmative Action, Equal Opportunity Employer.

The Contractor and all Sub-Contractors must comply with State Prevailing Wage Provisions (C.G.S. 31-53).

All Bidding Contractors must comply with DAS Contractor Prequalification requirements (C.G.S 4a-100.)

The Contractor must comply with the CHRO-Affirmative Action requirements (C.G.S. 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5.

The contract is subject to state set aside and contract compliance requirements.

The Town of Hebron reserves the right to reject or accept any or all Bids and to waive any informalities, omissions, excess verbiage or technical defects in the bidding if, in the opinion of the Town of Hebron, it would be in their best interest to do so.

END OF SECTION

**INSTRUCTIONS TO BIDDERS
TOWN OF HEBRON, CONNECTICUT 06248**

CODE VIOLATION PROJECT

**GILEAD HILL
ELEMENTARY
580 GILEAD STREET
HEBRON, CONNECTICUT**

The following instructions and specifications shall be observed by all Bidders:

I. **GENERAL CONDITIONS**

INTENT: The name of the Project is Code Violation Project, Gilead Hill Elementary School, 580 Gilead Street, Hebron, CT.

The purpose of these specifications is to obtain Sealed bids for **Code Violation Project at Gilead Hill Elementary School, 580 Gilead Street, Hebron, CT. RFP #2026-08.**

1. **Bid Opening**

Sealed bids will be accepted by the Town Manager's Office, Town of Hebron, 15 Gilead Street, Hebron, Connecticut 06248 ***no later than 10:00 a.m., Friday, February 20, 2026*** at which time they shall be publicly opened and read. **Bids received by the Town after the date and time specified will not be accepted.**

2. **Withdrawal of Bid**

Bids may be withdrawn 90 days after bid opening if no award has been made.

3. **Award of Bid**

Award of bid shall be made to the lowest responsible, and qualified bidder, who is prequalified to perform the work. The lowest responsible bidder is that person or firm whose bid to perform is lowest, who is qualified and competent to do the work, whose past performance of work is satisfactory to the Town and whose bid documents comply with the procedural requirements stated herein, and is prequalified pursuant to C.G.S 4a-100.

The Town of Hebron reserves the right to reject any and all bids, or part of such bid, or waive any defect, irregularity or informality of any bid when it is determined to be in the best interest of the Town.

Failure to completely fill out the bid form could result in rejection of bid submission. If an option is not available, it should clearly be stated on the bid form.

4. **Bid Return Envelope**

Bids are to be submitted in an envelope clearly marked with the bid title, bid number and opening date so as to prevent opening a sealed bid prior to the date specified. Any bids not so marked and opened by the Town prior to the date specified shall be rejected.

5. **No Bid**

Failure to return a bid could result in the removal of your firm's name from the Bid List. No Bids and responsive bids could result in your firm's retention on the Bid List. It is very helpful for the Town to obtain a better understanding as to why a vendor decides not to bid. We would appreciate the completion of the "No Bid" form and send it back to us so we can put improvements or changes in place that might be warranted.

6. **Bid Security**

Bid security in the form of a certified check or bid surety bond, issued by a bonding company licensed to do business in the State of Connecticut, is required in the amount of 10% of base bid.

Bid security shall be made payable to the Town of Hebron.

10% Bid Bond required. Bids from vendors that have previously failed to satisfactorily complete performance on a contract with the Town, will not be considered.

7. **Acceptance of Subcontractor**

Submission of name of Subcontractor in Bid shall be deemed to constitute an acceptance by Contractor, if awarded the Contract, of Bid of such Subcontractor. Any alteration therein, after award of contract, shall be subject to approval of the Town of Hebron.

8. **Changes and/or Additions**

All changes or additions to these specifications shall only be done by written communication bearing the signature of the Town Manager.

9. **Questions Relating to Specifications**

Any request from prospective bidders for interpretation of meaning of specifications or other contract documents shall be made in writing, **preferably by email to atierney@hebronct.gov**, to the Town Manager, 15 Gilead St, Hebron, Connecticut 06248, and to be given consideration must be received at least seven (7) days prior to date fixed for opening of bids. If necessary, interpretations will be made in the form of a written Addendum to Bid Documents, which Addenda shall become a part of Contract. Not later than four (4) days prior to date fixed for opening of Bids, Addenda will be provided to all persons who obtained Bid Documents. Failure of any Bidder to receive any such Addenda shall not relieve bidder from any obligation under this bid as submitted.

10. **Equal Opportunity - Affirmative Action**

The successful bidder shall comply in all aspects with the Equal Employment Opportunity Act. All bidders must certify that they agree and warrant that it will not discriminate against any person or group of persons on the grounds of sex, race, color, religion, age, marital status, ancestry, national origin, past history of mental disorder, mental retardation, or physical disability or other basis in any manner prohibited by the laws or ordinances of the United States, the State of Connecticut, or the Town of Hebron. Findings of non-compliance with applicable State and Federal regulations could be sufficient reason for revocation or cancellation of this contract.

The Town of Hebron is an Affirmative Action, Equal Opportunity Employer.

11. **Price and Discounts**

Prices bid shall not include any taxes, Local, State or Federal, as the Town is not liable. In addition to the prices bid each bidder may quote binding discounts which will be considered in making the award. All labor and materials shall be included in the prices quoted on the bid form. Tax exempt certificates are available upon request from the Town of Hebron Finance Office.

12. Insurance Requirements

The Insurance Requirements shall comply with the following listed requirements. Please note that these, and other requirements are listed in AIA Document, A101- Exhibit A for Insurance and Bond Requirements.

All insurance coverage shall be provided by the Contractor and by or for any of their Subcontractors at no additional expense to the Town of Hebron. The scope and limits of insurance coverages specified are the minimum requirements and shall in no way limit or exclude the Town of Hebron from additional limits and coverage provided under the Contractor's policies and/or their Subcontractors' policies. The Contractor shall either require each of their Subcontractors to produce identical insurance coverage requirements as detailed hereinafter or the Contractor shall secure the coverage of all Subcontractors under the Contractor's own policies.

The Contractor and/or Subcontractors shall be responsible for maintaining the stated insurance coverage in force for the life of the Contract with insurance carriers licensed and authorized to underwrite such insurance in the State of Connecticut.

The type and limits of insurance coverage shall not be less than the type and limits designated herein, and the Contractor and/or Subcontractors agree that the coverage or the acceptance by the Town of Hebron of Certificates of Insurance indicating the type and limits of insurance shall in no way limit the liability of the Contractor and/or Subcontractor to any such type and limits of insurance coverage.

The insurance coverage hereinafter afforded by the Contractor and/or Subcontractor shall be primary insurance, except when stated to apply in excess of or contingent upon the absence of other insurance. The amount and type of insurance shall not be reduced by the existence of other insurances held by the Town of Hebron or any other additional insured.

The Contractor and/or Subcontractor shall provide coverages that are not impaired or the aggregate is not to be impaired by any other risk, past or present, and the limits required shall be fully available to the Town of Hebron and any other additional insured if depleted below the required levels during the course of the contract and/or any extensions thereto.

The Contractor and/or Subcontractor shall not commence work under the terms of this contract until they have obtained the liability insurance coverage required by this article and have filed Certificates of Insurance and policy endorsements acceptable to the Town of Hebron on same with the Town of Hebron and the Town of

Hebron has approved the Certificates of Insurance, and endorsements and the represented coverage.

Each Certificate of Insurance shall include the following pertinent information:

- Name of Insurance Carrier writing policy
- Name Insured
- Address of Named Insured
- Description of coverage (Workers' Compensation certificates should evidence the state(s) of operation including Connecticut)
- Policy Periods (effective and expiration dates)
- Limits of liability and terms
- Brief description of operations performed and property covered
- Name and address of certificate holder
- Authorized agent's name and address
- Date and signature of the issuing agent (original only)
- All additional named insured endorsement
- All cross liability endorsements
- All indemnification and hold harmless agreements (must be supported by Contractual Liability Insurance)
- 60 day written notice provision
- A deletion of any disclaimer wording relative to providing the holder with notice of cancellation- example: "endeavor to" provide notice or wording to the effect the Carrier will not be responsible should notice not be furnished.

Each insurance policy (with the exception of OPC shall contain an endorsement naming the Town of Hebron, the Hebron Public Building Committee, the Hebron Board of Education, the Hebron Elementary and Gilead Hill School Roof Building Committee, the Architect, and the Architect's consultants, and the members, agents and employees of any of them as Additional Insureds, evidence of a Cross Liability endorsement so that each insured's interests are considered and treated separately in the case of claims between the insureds, and an endorsement providing a 60 Day advance

Notification to the Town of Hebron in the event of any material change, modification, cancellation, or non-renewal of insurance coverage.

The Contractor and/or Subcontractors shall include a waiver of subrogation rights, on all insurance policies, so that the Town of Hebron, the Hebron Public Building Committee, the Hebron Board of Education, the Hebron Elementary and Gilead Hill School Roof Building Committee, the Architect, and the Architect's consultants, and the members, agents and employees of any of them cannot be sued by the Contractor's insurer to recover any payments made on behalf of the Contractor and/or Subcontractor.

All insurance policies provided by the Contractor and/or Subcontractors shall include an endorsement indicating that any breach of warranty, by the named insured, will not be imputed to another insured.

During the course of execution of the work, whenever there is a lapse in the insurance requirements as stated herein, through cancellation, expiration, failure to renew, or any other cause, the Town of Hebron shall order the cessation of all construction activities until such time as the insurance requirements are complied with. The Contractor shall have no claim or claims whatever against the Town of Hebron or other parties to the contract.

To the fullest extent allowed by law, the Contractor and their Subcontractors shall indemnify and save harmless the Town of Hebron and all additional named insured and all appointed or elected officers, officials, directors, committee members, employees, volunteer workers, commissioners, and any affiliated, associated, or allied entities and/or bodies of, or as may be participated in by the Town of Hebron, or as may now or hereinafter be constituted or established from and against all claims, damages, and losses and expenses including attorney's fees arising out of or resulting from the performance of the work under this contract, provided that any such claims, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to, or destruction of tangible property, including the loss of use resulting there from; but only to the extent caused in whole or in part by any negligent or willful act or omission of the Contractor, and their Subcontractors, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

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

The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury, or loss to; 1) all employees on the work and all other persons who may be affected thereby; 2) all the work and all the materials and equipment to be incorporated therein, whether in storage in or on the site, under the care, custody, or control of the

Contractor or any of their Subcontractors; and 3) other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designed for removal, relocation, or replacement in the course of construction

The Contractor shall erect and maintain, as required by existing conditions and progress of the work, all 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 utilities.

The Contractor and/or Subcontractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations, and lawful orders for any public authority bearing on the safety of persons or property or their protection from damage, injury, or loss.

When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of work, the Contractor and/or their Subcontractors shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

The Contractor shall designate a responsible member of their 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 Town of Hebron.

In any emergency affecting the safety of persons or property, the Contractor shall act to prevent threatened damage, injury, or loss.

The Contractor, Subcontractor, and their insurer(s) shall waive governmental immunity as a defense and shall not use the defense of governmental immunity in the adjustment of claims or in the defense of any suit, action or claim brought against the Town of Hebron. Nothing shall limit the Town of Hebron from utilizing the defense of governmental immunity.

INSURANCE REQUIREMENTS

A. **Insurance:**

A.1. The Town reserves the right to waive any portion or adjust downward the amount of insurance required depending on the exposures to the Town. The Contractor shall furnish a certificate of insurance to the Town Manager or his designee for the following insurance coverage within ten (10) days from contract execution. All insurance coverage shall be written with an insurance company licensed to conduct business in the State of Connecticut.

Insurance coverage shall remain in full force for the duration of the contract term including any and all extensions. Such certificate of insurance shall specify that the Town of Hebron will receive thirty (30) days written notice of any cancellation, non-renewal or reduction in coverage and limits originally provided.

A.2. Any aggregate limit shall apply per project. Trade Contractor's insurance shall be primary over any other valid and collectible insurance. Any deductibles are the sole responsibility of the Trade Contractor. Such policy shall name the Town of Hebron, the Hebron Public Building Committee, the Hebron Board of Education, the Hebron Elementary and Gilead Hill School Roof Building Committee, the Architect, and the Architect's consultants, and the members, agents and employees of any of them as "additional insureds".

A.3. Commercial General Liability including Premises-Operations, Independent Consultants or Sub-Consultants, Sub-Trade Contractors and Sub-Sub Trade Contractors, Blanket Contractual, Products and Completed Operations, Broad Form Property Damage:
\$1,000,000 Property Damage per Occurrence
\$1,000,000 Combined Single Limit
Property damage Liability for the following hazards if applicable:
X (Explosion), C (Collapse), U (Underground damage).

A.4. Comprehensive Automobile Liability covering owned, non-owned, hired or leased vehicles.
\$1,000,000 Bodily Injury per Occurrence
\$1,000,000 Property Damage per Occurrence
\$1,000,000 Combined Single Limit

A.5. Owners Protective Liability:
On purchase orders where the cost of the work, or contract price, exceeds \$100,000 or is hazardous in nature, there shall also be a \$4,000,000 umbrella or excess liability layer over the underlying described above. In such case there shall also be required an Owners and Consultants Protective Liability policy issued naming the Town as named insured, with a \$1,000,000 per occurrence limit.

The wording for both named insured and additional insured shall read as follows: The Town of Hebron, The Hebron Board of Education, Hebron Elementary School, (where appropriate), and its respective Officers, agents and servants.

A.6. Worker's Compensation:
In accordance with Connecticut State Statutes.
Employers Liability Limit - \$1,000,000.

A.7. Professional liability - \$5,000,000 limit - Additional coverage and limits may be required based upon the particular services contracted.

13. **Non-collusive Affidavit and Town of Hebron Code of Ethics Policy**

Any act or acts of misrepresentation or collusion shall be the basis for disqualification of any bid or proposal submitted by such person or company guilty of said misrepresentation or collusion. If the bidder has made any misrepresentations or has been involved in collusion and such conduct is discovered after the execution of an Agreement with the Town, the Town may cancel the Agreement without incurring liability, penalty, or damages. The attached Non-collusive Affidavit of Proposer form and acknowledgement of the Town Code of Ethics Policy must be submitted with the formal bid proposal.

14. **Severability**

If any terms or provisions of this bid shall be found to be illegal or unenforceable, then such term or provision shall be deemed stricken and the remaining portions of this bid shall remain in full force and effect.

15. **Trade Contractor Classification**

The classification for which contractor are being sought are Asbestos Removal, Fireproofing, General Building Construction (Group A), and Electrical.

16. **Prevailing Wage Provisions**

The Contractor and all Sub-Contractors must comply with State Prevailing Wage Provisions (C.G.S. 31-53).

17. **DAS Contractor Prequalification Requirements**

All Bidding Contractors must comply with DAS Contractor Prequalification requirements (C.G.S 4a-100.)

18. **CHRO-Affirmative Action Requirements**

The Contractor must comply with the CHRO-Affirmative Action requirements (C.G.S. 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5.

The Contractor shall be required to comply with the requirements concerning nondiscrimination and affirmative action under sections 4a-60 and 4a-60a. As a result of the foregoing, the Contractor shall (A) set aside at least twenty-five per cent of the total value of the state's financial assistance for such contract for award to Subcontractors who are small contractors, and (B) of that portion to be set aside in accordance with subparagraph (A) of this subdivision, reserve a portion equivalent to twenty-five per cent of the total value of the Contract or portion thereof to be set aside for awards to Subcontractors who are minority business enterprises.

II. TECHNICAL SPECIFICATIONS/ADDITIONAL REQUIREMENTS**1. Completion Date**

The successful bidder must complete the project by August 14, 2026, with final completion of the punch list and demobilization from the school by August 22, 2025. Failure to comply with this deadline will result in a fine of **\$1,000.00** per day for every day the vendor fails to comply with the deadline.

2. Rejection of Bids

Any bid received that does not contain the information requested in bidder's qualifications shall be rejected. The Town reserves the right to waive certain missing information if it does not have a bearing on the overall decision to award the bid.

3. Specifications

See Table of Contents section of this Project Manual for description of Specification Sections.

4. Form of Contract

The form of contract to be utilized on the project is a modified version of the AIA A101-2017, AIA A101-2017, Ex. A, and AIA A201-2017. By submitting a bid for the project, the Contractor warrants and represents that it shall execute the form of contract without modification, exception, or condition

END OF SECTION

**BID PROPOSAL FORM
TOWN OF HEBRON, CONNECTICUT 06248**

**CODE VIOLATION PROJECT
GILEAD HILL ELEMENTARY SCHOOL
580 GILEAD STREET, HEBRON, CT**

BID # 2026-08

Opening Date: 10:00 a.m., February 20, 2026

Town Manager's Office
Town of Hebron
15 Gilead St
Hebron, CT 06248

In accordance with the Drawings, Specifications, Bidding and Contract Document, the undersigned agrees to the following:

Provide ALL Labor, Material and Equipment that is necessary to complete the Code Violation Project.

References:

We have performed work or provided services for the following municipalities and on these dates:

- 1 _____
- 2 _____
- 3 _____

SUBMITTED BY:

(Bidder's full Company Name).....

(Bidder's full address).....

.....

(Bidder's telephone and fax numbers).....

(Bidder's email address).....

1. OFFER

Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Bidding and Contract Documents prepared by Friar Architecture for the

above-mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work of the Base Bid for the Sum of:

\$.....dollars (.....)
 (amount in words) (amount in figures)

2. UNIT PRICES

In accordance with Specification sections 012200 Unit Prices and 012100 Allowances, we propose and agree that the following unit prices for work performed in accordance with Contract Documents, measured in place, shall be used to compute cost to the Town of Hebron should amount of work required by the Contract Documents be changed by order of the Town of Hebron. Unit prices include all necessary material, overhead and profit, and applicable taxes.

The unit price amounts will be added or deducted from the Contract Sum by Change Order. For work added to Contract, these unit prices include all costs, overhead and profit for all parties involved including the Contractor and Subcontractors. For work deleted from Contract, credit to the Town of Hebron for such work shall be computed on the basis of unit price.

Schedule of Allowances included in Base Bid

HAZARDOUS MATERIAL ITEM NO. (#012200)	UNIT	PRICE
A. Unit Price No. 1: Asbestos containing ceiling tile, removal and disposal as friable asbestos.	S.F.	\$ _____
B. Unit Price No. 2: Asbestos containing pipe fitting insulation, removal and disposal as friable asbestos.	S.F.	\$ _____
C. Unit Price No. 3: Preparation of a small containment (for abating asbestos >3 sf/3 lf but <260 lf/160 sf) with decontamination unit (including remobilization, if necessary).	S.F.	\$ _____
D. Unit Price No. 4: Preparation of a large containment (for abating asbestos >260 lf/160 sf) with decontamination unit (including remobilization, if necessary).	S.F.	\$ _____

ITEM NO.	UNIT	PRICE
A. Unit Price No. 1: Firestopping System at existing 2-hour fire separation wall – masonry.	Per Opening	\$ _____
B. Unit Price No. 2: Ceiling repairs – Gypsum Board Ceilings	Per Opening	\$ _____

3. ALTERNATE BID ITEMS - N/A

4. ACCEPTANCE

This offer shall be open to acceptance and is irrevocable for ninety (90) days from the bid closing date.

If the Town of Hebron accepts this bid within the time period stated above, we will:

- Execute the Agreement within ten days of receipt of notice of acceptance of this bid.
- Furnish the required bonds and insurance certificates within ten (10) days of receipt of notice of acceptance of this bid in the form described in the Supplementary Conditions.
- Commence work within ten days after award of Contract and written Notice to Proceed.
-

If this bid is accepted within the time stated, and we fail to enter into an Agreement or we fail to provide the required Bonds, the Bid Security shall be forfeited as damages to the Town of Hebron by reason of our failure.

In the event our bid is not accepted within the time stated above, the required Bid Security shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

We understand the Town of Hebron reserves the right to accept any Bid or reject any or all Bids and to waive any informality in the Bidding.

5. CONTRACT TIME

If this Bid is accepted, we will be required to complete the Work in accordance with the following schedule:

Final Punch List work shall be complete, all temporary facilities removed, and site restored no later than **August 21, 2026** or as designated by the Town of Hebron.

6. ADDENDA

The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.

Addendum	No.	Dated
Addendum	No.	Dated
Addendum	No.	Dated

7. APPENDICES

In accordance with the Instructions to Bidders, we include the following required Appendices concurrent with Bid submission. The information provided shall be an integral part of our Bid.

Bid Bond - Section 005100

Statement of Bidder’s Qualifications – Section 006000

Completed CHRO- Notification to Bidders/Contract Compliance Monitoring Report.

8. The undersigned is familiar with the conditions surrounding this call for bids, is aware that the Town of Hebron reserves the right to reject any and all bids, and is submitting this bid without collusion with any other person, individual or corporation.

Signature

Witness

Printed Name & Title of Signer

Date

Company Name

Phone

Address

Fax

Town/City State Zip

9. SUBCONTRACTORS

List all Subcontractors to be used on this project (or attach list to back of Bid Form)

- 1. _____ 3. _____
- 2. _____ 4. _____

CHRO/AFFIRMATIVE ACTION PLAN

BIDDERS PROPOSED SET ASIDE SUBCONTRACTORS

The Contractor who is selected to perform this State Project must comply with CONN. GEN. STAT. 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5.

State law requires a minimum of twenty-five (25%) percent of the state-funded portion of the contract for award to subcontractors holding current certification from the Connecticut Department of Administrative Services (DAS) under the provisions of CONN. GEN. STAT. 4a-60g. (25% of the total state-funded value with DAS- certified Small businesses and 6.25% of the total state-funded value with DAS Certified Minority, Women and/or Disabled owned businesses). The Contractor must demonstrate good faith effort to meet the 25% set-aside goals.

LIST THE SUBCONTRACTORS THAT YOU PLAN TO RETAIN TO COMPLY WITH THIS REQUIREMENT

NAME	ADDRESS	SCOPE OF WORK	CONTRACT AMOUNT	DAS CERTIFICATION (SMALL BUSINESS, MINORITY, WOMEN, DISABLED)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

END OF SECTION

SECTION 005000
AGREEMENT FORMS

PART 1 GENERAL

- 1.01 Standard AIA Document Forms to be used for this Contract are as follows (note: provide the latest edition of each form listed below):

AIA Document-A101-2017-Standard Form of Agreement Between Owner and Contractor

AIA Document-A101-2017-Exhibit A

AIA Document-A201-2017-General Conditions of the Contract for Construction

A312 Performance Bond and Labor and Material Payment Bond

G702 Application for Payment

G703 Certificate for Payment

G705 Certificate of Insurance

G706A Contractor's Affidavit of Release of Liens

G707 Consent of Surety Company to Final Payment

END OF SECTION

SECTION 005100

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned

_____ as Principal; and _____ as Surety are here by held and

Firmly bound unto the **Town of Hebron, Connecticut**, in the penal sum of

_____ Dollars (\$ _____), for the payment of

which, well and truly to be made we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

Signed this _____ day of _____, 20____

The condition of the above obligation is such that whereas the Principal has submitted to the **Town of Hebron, Connecticut**, a certain Bid, attached hereto and hereby made a part hereof, to enter into a Contract in writing, for the _____

NOW, THEREFORE,

- a) If said Bid shall be rejected, or, on the other hand,
- b) If said Bid shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached thereto (properly completed in accordance with said Bid) and shall furnish a bond for his faithful performance of said Contract, and shall in all other respects perform the agreement created by the acceptance of said Bid.

Then this obligation shall be void; otherwise, the same shall remain in force and effect, it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of the said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Town of Hebron may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

_____) Seal)
Principal

Surety

By _____

END OF SECTION

SECTION 00600
STATEMENT OF BIDDER'S QUALIFICATIONS

Submitted by:

Name

Address

A Corporation ____ A Co-Partnership ____ An Individual ____

How many years has your organization been in business:

As a General Contractor? _____ As a Subcontractor? _____

How many years has it been in business under its present name? _____

Does your firm conform to the EEO requirements? Yes ____ No ____

If a Corporation: Date of Incorporation: ____ State of Incorporation ____

Name, Title and Address of all principal officers:

If a Co-Partnership: Date of Organization: _____

Date, Title and Address of all Partners:

BONDING COMPANY _____

Have you ever defaulted on a Contract?: _____ If so, attach separate statement listing location, The Town of Hebron and circumstances.

Bidder may be required to submit financial information at the Town of Hebron's request.

Remarks:

List projects of similar size, specification (Asbestos Removal, Fireproofing, General Building Construction, Electrical) and character your organization has completed within the past three (3) years for the Town of Hebron's references:

Project (Name & Address)	Owner (Name & Address)	Contract Architect	Date of Amount	Completed on Time Completion	Work Done With Own Force (Yes or No)	% of Work	Trades

Attach separate statement if necessary to fully describe qualifications for this work.)

Name and experience of key personnel to be associated with this project.

Person in Charge		Superintendent		Foreman (men)	
Name	Experience	Name	Experience	Name	Experience

Trade Contractor to identify what their Worker’s Compensation Modification Factor is:

Four horizontal lines for text entry.

Bidder to identify if they have been cited by OSHA for any safety infractions in the last five (5) years:

Four horizontal lines for text entry.

State of: _____)

) ss:

County of: _____)

being duly sworn deposes and says that his
is
of

and that answers to the foregoing questions and all statements therein contained are true and correct.

Sworn to before me this _____ day of _____ 20 _____

Notary Public: _____

My Commission Expires: _____

END OF SECTION

SECTION 008600
TOWN OF HEBRON
Department of Finance
NON COLLUSIVE AFFIDAVIT OF PROPOSER

The undersigned proposer, having fully informed themselves regarding the accuracy of statements made herein certifies that;

- (1) the proposer developed the bid independently and submitted it without collusion with, and without any agreement, understanding, or planned common course of action with any other entity designed to limit independent bidding or competition;
- (2) the proposer, its employees and agents have not communicated the contents of the bid to any person not an employee or agent of the proposer and will not communicate the proposal to any such person prior to the official opening of the proposal, and
- (3) acknowledges that the Town of Hebron’s Code of Ethics Policy has been received and understood.

The undersigned proposer further certifies that this statement is executed for the purpose of inducing the Town of Hebron to consider the proposal and make an award in accordance therewith.

Legal Name of Proposer/Firm	Business Address
-----------------------------	------------------

Signature and Title	Date
---------------------	------

Printed Name of Title Person

Subscribed and Sworn to me this _____ day of _____, 20____

Notary Public
 My Commission Expires

END OF SECTION

SECTION 008700
HEBRON CODE OF ETHICS

Hebron Code of Ethics

Effective November 5, 2019

I. Persons Governed by this Code

This code shall apply to all Town officials, officers and employees, whether elected and/or appointed, including members of boards, commissions, and committees, full time or part time, paid or unpaid and shall hereinafter be referred to collectively as “persons governed by this code.”

II. Purpose

Public office is a public trust. The trust of the public is essential for government to function effectively. Policy developed by government officials and employees affects every citizen of the town, and it must be based upon honest and fair deliberations and decisions. This process must be free from threats, favoritism, undue influence and all forms of impropriety so that the confidence of the public is not eroded. By enacting this Code, the Town seeks to avoid any loss of trust and to maintain and increase the confidence of our citizens in the integrity, fairness and transparency of their government.

Persons governed by this code shall strive to conduct themselves in a professional, courteous, honest manner and otherwise according to the highest moral and personal standards of integrity, such that their behavior reflects favorably upon themselves and the Town of Hebron, including but not limited to conduct or communication in any public forum or media.

III. Definitions

As used in this Chapter, the following listed words and phrases shall have these specific meanings:

A. ***Conflict of Interest:*** A conflict between one’s obligation to the public good and one’s self-interest.

B. ***Financial Interest:*** Any monetary benefit accruing to persons governed by this code that is not equally available to the general public.

C. ***Gift:*** Anything having value whether in the form of service, loan, tangible property, promise or any other form. However a gift shall not include political contributions made in accordance with campaign financing regulations; nor tokens of appreciation, recognition or other incidental gratuities not exceeding \$100 per year.

D. ***Immediate Family:*** Includes spouse/domestic partner, siblings, child(ren), parents, of persons governed by this code or the spouse/domestic partner and any individual residing in the same household.

E. ***Independent Contractor:*** Any general contractor, subcontractor, consultant, person, firm, corporation, vendor or organization currently providing or formerly providing, goods or services to the Town of Hebron in exchange for compensation.

F. ***Personal Interest:*** Any non-monetary benefit, special consideration, treatment or advantage accruing to persons governed by this code which is not equally available to the general public.

IV. Conflicts of Interest

No person governed by this code shall use his position or office for the financial or personal interest of himself, a business with which he is associated, an individual with which he is associated or a member of his immediate family.

No person governed by this code shall engage in or participate in any business or transaction, including outside employment with a private business, or have an interest, direct or indirect, that is incompatible with the proper discharge of his official responsibilities in the public interest or that would tend to impair his independent judgment or action in the performance of his official responsibilities.

No person governed by this code or a business with which he is associated or member of his immediate family shall enter into a contract with the Town unless it is awarded through a process of public notice and/or competitive bidding.

No person governed by this code or independent contractor shall knowingly counsel, authorize or otherwise sanction action that violates any provision of this code.

V. Disclosure and Recusal

A person governed by this code shall refrain from participating on behalf of the Town of Hebron in any matter pending before any agency of the town if he, a business with which he is associated, an individual with whom he is associated or a member of his immediate family has a financial or personal interest in that matter and such interest is not shared by a substantial segment of the town's population.

If such participation is within the scope of said person's official responsibility, he shall be required to provide written disclosure, that sets forth the nature and extent of such interest to the Town Clerk, and this disclosure shall be included in the official record of all proceedings on this matter.

Notwithstanding the prohibition outlined above, a person governed by this code may vote or otherwise participate in a matter that involves a determination of general policy if said person's interest in the matter is shared with a substantial segment of the population of the Town.

No person governed by this code shall appear on behalf of private interests before any agency of the Town, nor shall he represent private interests in any action, proceeding or litigation against the town.

Nothing contained in this code shall prohibit or restrict a person governed by this code from appearing before any agency of the Town on his own behalf, or from being a party in any action, proceeding or litigation brought by or against such person to which the Town is also a party.

For a period of one (1) year after termination of service to the Town, no former employee or Town official who participated in the negotiation or award of a town contract valued in excess of \$25,000 shall accept employment with, appear on behalf of, or represent any private interest concerning matters related to this same contract.

VI. Gifts

No person governed by this code or member of such individual's immediate family or business with which he is associated shall solicit or accept any gift that could reasonably be expected to influence or create an appearance of influencing the actions or judgment of such person.

If a prohibited gift is offered to a person governed by this code, he shall refuse it, return it, pay the donor the market value of the gift or donate it to a nonprofit organization provided he does not take the corresponding tax write-off. Alternatively, such prohibited gift may be considered a gift to the Town provided it remains in the Town's possession.

VII. Use of Town Assets

No person governed by this code or independent contractor shall request or permit the use of town funds or services, Town owned or leased vehicles, equipment, facilities, materials or property for personal convenience or profit, except when such assets and services are available to the public generally or are provided as Town policy for the use of persons governed by this code in the conduct of official business.

VIII. Use of Confidential Information

No person governed by this code, former employee or independent contractor shall disclose confidential information concerning Town affairs, nor shall such persons governed by this code use this information for the personal or financial interests of themselves or others.

END OF SECTION

Minimum Rates and Classifications
for Building Construction

ID#: 26-0595

Connecticut Department of Labor
Wage and Workplace Standards Division

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number: Project Town: Hebron
State#: FAP#:
Project: Gilead Hill Elementary School: Code Violations

CLASSIFICATION	Hourly Rate	Benefits
1b) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters.**See Laborers Group 7**		
1c) Asbestos Worker/Heat and Frost Insulator	48.81	34.05
2) Boilermaker	50.21	30.01
3a) Bricklayer, Cement Mason, Concrete Finisher (including caulking), Stone Masons	45.56	36.94 + a
3b) Tile Setter	40.0	32.75
3c) Tile and Stone Finishers	33.0	27.43
3d) Marble & Terrazzo Finishers	34.2	26.23
3e) Plasterer	44.52	29.63

3f) Terrazzo Mechanics & Marble Setters	40.6	34.93
-----LABORERS-----		
4) Group 1: General laborers, carpenter tenders, concrete specialists, wrecking laborers and fire watchers.	35.7	28.85
4) Group 1a: Acetylene Burners (Hours worked with a torch)	36.7	28.85
4a) Group 2: Mortar mixers, plaster tender, power buggy operators, powdermen, fireproofers/mixer/nozzlemans (Person running mixer and spraying fireproof only).	35.95	28.85
4b) Group 3: Jackhammer operators/pavement breaker, mason tender (brick), mason tender (cement/concrete), forklift operators and forklift operators (masonry).	36.2	28.85
4c) **Group 4: Pipelayers: Licensed P6 -P7 (one or two employees of the total crew who primary task is to perform mating of pipe sections).	36.7	28.85
4d) Group 5: Air track operator, sand blaster and hydraulic drills.	36.45	28.85
4e) Group 6: Blasters, nuclear and toxic waste removal.	38.7	28.85
4f) Group 7: Asbestos/lead removal and encapsulation (except it's removal from mechanical systems which are not to be scrapped).	38.7	28.85
4g) Group 8: Bottom men on open air caisson, cylindrical work and boring crew.	36.2	28.85
4h) Group 9: Top men on open air caisson, cylindrical work and boring crew.	35.7	28.85

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4i) Group 10: Traffic Control Signalman	21.42	28.85
4j) Group 11: Toxic Waste Removers A or B With PPE	38.7	28.85
5) Carpenter, Acoustical Ceiling Installation, Soft Floor/Carpet Laying, Metal Stud Installation, Form Work and Scaffold Building, Drywall Hanging, Modular-Furniture Systems Installers, Lathers, Piledrivers, Resilient Floor Layers.	42.03	29.19
5a) Millwrights	43.25	29.13
5b) Carpenter - Welder	42.53	29.19
5c) Carpenter: Working with creosote lumber or acid	43.03	29.19
6) Electrical Worker (including low voltage wiring) (Trade License required: E1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	48.25	35.22+3% of gross wage
7a) Elevator Mechanic (Trade License required: R-1,2,5,6)	69.55	38.985+a+b
-----OUTSIDE LINE CONSTRUCTION-----		
Groundman	32.1	13.95
Linemen/Cable Splicer	58.37	33.94
8) Glazier (Trade License required: FG-1,2)	43.13	26.50+ a

9) Ironworker, Ornamental, Reinforcing, Structural, and Precast Concrete Erection	45.25	43.62 + a
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----OPERATORS----

Group 1: Crane Handling or Erecting Structural Steel or Stone; Hoisting Engineer (2 drums or over). (Trade License Required)	58.19	29.80 + a
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Group 1a: Front End Loader (7 cubic yards or over); Work Boat 26 ft. and Over	53.33	29.80 + a
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Group 2: Cranes (100 ton rate capacity and over); Bauer Drill/Caisson. (Trade License Required)	57.78	29.80 + a
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Group 2a: Cranes (under 100 ton rated capacity).	56.79	29.80 + a
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Group 2b: Excavator over 2 cubic yards; Pile Driver (\$3.00 premium when operator controls hammer)	52.92	29.80 + a
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Group 3: Excavator; Gradall; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Finegrade. (slopes, shaping, laser or GPS, etc.). (Trade License Required)	51.92	29.80 + a
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Group 4: Trenching Machines; Lighter Derrick; CMI Machine or Similar; Koehring Loader (Skooper); Goldhofer.	51.42	29.80 + a
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Group 5: Specialty Railroad Equipment; Asphalt Spreader, Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24 mandrel).	50.63	29.80 + a
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Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	50.63	29.80 + a
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Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	50.22	29.80 + a
Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and under mandrel).	49.77	29.80 + a
Group 8: Mechanic; Grease Truck Operator; Hydroblaster; Barrier Mover; Power Stone Spreader; Welding; Work Boat Under 26 ft.; Transfer Machine; Rigger Foreman.	49.25	29.80 + a
Group 9: Front End Loader (under 3 cubic yards); Skid Steer Loader regardless of attachments; (Bobcat or Similar); Forklift, Power Chipper; Landscape Equipment (including Hydroseeder); Vacuum Excavation Truck and Hydrovac Excavation Truck (27 HG pressure or greater).	48.67	29.80 + a
Group 10: Vibratory hammer; ice machine; diesel and air, hammer, etc.	45.96	29.80 + a
Group 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.	45.96	29.80 + a
Group 12: Wellpoint Operator.	45.87	29.80 + a
Group 13: Compressor Battery Operator.	45.12	29.80 + a
Group 14: Elevator Operator; Tow Motor Operator (solid tire no rough terrain).	43.6	29.80 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	43.06	29.80 + a
Group 16: Maintenance Engineer.	42.2	29.80 + a

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Group 17: Portable Asphalt Plant Operator; Portable Crusher Plant Operator; Portable Concrete Plant Operator; Portable Grout Plant Operator; Portable Water Filtration Plant Operator.	47.91	29.80 + a
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Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (Minimum for any job requiring a CDL license); Rigger; Signalman.	44.7	29.80 + a
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Surveyor: Chief of Party	48.16	29.80 + a
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Surveyor: Assistant Chief of Party	44.41	29.80 + a
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Surveyor: Instrument Man	42.73	29.80 + a
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Surveyor: Rodman or Chainman	36.78	29.80 + a
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-----PAINTERS (Including Drywall Finishing)-----

10a) Brush and Roller	39.57	26.50
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10b) Taping Only/Drywall Finishing	40.32	26.50
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10c) Paperhanger and Red Label	40.07	26.50
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10d) Spray	42.57	26.50
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10e) Spray Helper	40.57	26.50
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10f) Blast	44.57	26.50
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10g) Blast Helper	40.57	26.50
11) Plumber (excluding HVAC pipe installation) (Trade License required: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2)	50.58	36.30
12) Well Digger, Pile Testing Machine	37.26	24.05 + a
13) Roofer (composition)	45.15	23.44
14) Roofer (slate & tile)	45.65	23.44
15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)	44.7	44.38
16) Pipefitter (Including HVAC work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4, G-1, G-2, G-8 & G-9)	50.58	36.30
-----TRUCK DRIVERS-----		
17) Block Truck	37.48	32.68 + a
17a) 2 Axle	36.16	32.68 + a
17ab) Helpers	34.66	32.68 + a
17b) 3 Axle, 2 Axle Mixer	36.27	32.68 + a
17c) 3 Axle Mixer	36.33	32.68 + a

As of: January 16, 2026

17d) 4 Axle	36.39	32.68 + a
17e) 4 Axle Mixer	37.19	32.68 + a
17ef) 5 Axle	36.39	32.68 + a
17eg) 5 Axle Mixer	37.19	32.68 + a
17f) Heavy Duty Trailer (40 Tons and Over)	38.66	32.68 + a
17g) Euclids and Semi-Trailer	36.44	32.68 + a
17h) Heavy Duty Trailer up to 40 tons	37.39	32.68 + a
17i) Snorkle Truck	36.54	32.68 + a
17j) Swivel Dump and Tack Truck	36.39	32.68 + a
18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	53.76	33.44 + a
19) Theatrical Stage Journeyman	25.76	7.34

Welders: Rate for craft to which welding is incidental.

Surveyors: Hazardous material removal: \$3.00 per hour premium.

*Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.

**Note: Hazardous waste premium \$3.00 per hour over classified rate.

Truck Drivers: Trainers Premium: \$3.00 over wage rate.

Truck Drivers: Night Premium - Mixer Drivers: \$2.00 over wage rate.

As of: January 16, 2026

Crane with 150 ft. boom (including jib) - \$1.50 extra
Crane with 200 ft. boom (including jib) - \$2.50 extra
Crane with 250 ft. boom (including jib) - \$5.00 extra
Crane with 300 ft. boom (including jib) - \$7.00 extra
Crane with 400 ft. boom (including jib) - \$10.00 extra

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of each apprentice in a specific trade.

The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.

Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.

It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.

The annual adjustments will be posted on the Department of Labor's Web page: www.ct.gov/dol. For those without internet access, please contact the division listed below.

The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.

All subsequent annual adjustments will be posted on our Web Site for contractor access.

Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.

Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

As of: January 16, 2026

COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES
CONTRACT COMPLIANCE REGULATIONS
NOTIFICATION TO BIDDERS

(Revised 09/3/15)

The contract to be awarded is subject to contract compliance requirements mandated by [Sections 4a-60](#) and [4a-60a](#) of the Connecticut General Statutes; and, when the awarding agency is the State, [Sections 46a-71\(d\)](#) and [46a-81i\(d\)](#) of the Connecticut General Statutes. There are Contract Compliance Regulations codified at [Section 46a-68j-21 through 43](#) of the Regulations of Connecticut State Agencies, which establish a procedure for awarding all contracts covered by [Sections 4a-60](#) and [46a-71\(d\)](#) of the Connecticut General Statutes.

According to [Section 46a-68j-30\(9\)](#) of the Contract Compliance Regulations, every agency awarding a contract subject to the contract compliance requirements has an obligation to “aggressively solicit the participation of legitimate minority business enterprises as bidders, contractors, subcontractors and suppliers of materials.” “Minority business enterprise” is defined in [Section 4a-60](#) of the Connecticut General Statutes as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: “(1) Who are active in daily affairs of the enterprise; (2) who have the power to direct the management and policies of the enterprise; and (3) who are members of a minority, as such term is defined in subsection (a) of [Section 32-9n.](#)” “Minority” groups are defined in [Section 32-9n](#) of the Connecticut General Statutes as “(1) Black Americans . . . (2) Hispanic Americans . . . (3) persons who have origins in the Iberian Peninsula . . . (4) Women . . . (5) Asian Pacific Americans and Pacific Islanders; (6) American Indians . . .” An individual with a disability is also a minority business enterprise as provided by [Section 4a-60g](#) of the Connecticut General Statutes. The above definitions apply to the contract compliance requirements by virtue of [Section 46a-68j-21\(11\)](#) of the Contract Compliance Regulations.

The awarding agency will consider the following factors when reviewing the bidder’s qualifications under the contract compliance requirements:

- (a) the bidder’s success in implementing an affirmative action plan;
- (b) the bidder’s success in developing an apprenticeship program complying with [Sections 46a-68-1 to 46a-68-17](#) of the Administrative Regulations of Connecticut State Agencies, inclusive;
- (c) the bidder’s promise to develop and implement a successful affirmative action plan;
- (d) the bidder’s submission of employment statistics contained in the “Employment Information Form”, indicating that the composition of its workforce is at or near parity when compared to the racial and sexual composition of the workforce in the relevant labor market area; and
- (e) the bidder’s promise to set aside a portion of the contract for legitimate minority business enterprises. [See Section 46a-68j-30\(10\)\(E\)](#) of the Contract Compliance Regulations.

INSTRUCTIONS AND OTHER INFORMATION

The following [BIDDER CONTRACT COMPLIANCE MONITORING REPORT](#) must be completed in full, signed, and submitted with the bid for this contract. The contract awarding agency and the Commission on Human Rights and Opportunities will use the information contained thereon to determine the bidders compliance to [Sections 4a-60](#) and [4a-60a](#) CONN. GEN. STAT., and [Sections 46a-68j-23](#) of the Regulations of Connecticut State Agencies regarding equal employment opportunity, and the bidder’s good faith efforts to include minority business enterprises as subcontractors and suppliers for the work of the contract.

1) **Definition of Small Contractor**

[Section 4a-60g](#) CONN. GEN. STAT. defines a small contractor as a company that has been doing business under the same management and control and has maintained its principal place of business in Connecticut for a one year period immediately prior to its application for certification under this section, had gross revenues not exceeding fifteen million dollars in the most recently completed fiscal year, and at least fifty-one percent of the ownership of which is held by a person or persons who are active in the daily affairs of the company, and have the power to direct the management and policies of the company, except that a nonprofit corporation shall be construed to be a small contractor if such nonprofit corporation meets the requirements of subparagraphs (A) and (B) of subdivision [4a-60g](#) CONN. GEN. STAT.

2) Description of Job Categories (as used in Part IV Bidder Employment Information) (Page 2)

MANAGEMENT: Managers plan, organize, direct, and control the major functions of an organization through subordinates who are at the managerial or supervisory level. They make policy decisions and set objectives for the company or departments. They are not usually directly involved in production or providing services. Examples include top executives, public relations managers, managers of operations specialties (such as financial, human resources, or purchasing managers), and construction and engineering managers.

BUSINESS AND FINANCIAL OPERATIONS: These occupations include managers and professionals who work with the financial aspects of the business. These occupations include accountants and auditors, purchasing agents, management analysts, labor relations specialists, and budget, credit, and financial analysts.

MARKETING AND SALES: Occupations related to the act or process of buying and selling products and/or services such as sales engineer, retail sales workers and sales representatives including wholesale.

LEGAL OCCUPATIONS: In-House Counsel who is charged with providing legal advice and services in regards to legal issues that may arise during the course of standard business practices. This category also includes assistive legal occupations such as paralegals, legal assistants.

COMPUTER SPECIALISTS: Professionals responsible for the computer operations within a company are grouped in this category. Examples of job titles in this category include computer programmers, software engineers, database administrators, computer scientists, systems analysts, and computer support specialists

ARCHITECTURE AND ENGINEERING: Occupations related to architecture, surveying, engineering, and drafting are included in this category. Some of the job titles in this category include electrical and electronic engineers, surveyors, architects, drafters, mechanical engineers, materials engineers, mapping technicians, and civil engineers.

OFFICE AND ADMINISTRATIVE SUPPORT: All clerical-type work is included in this category. These jobs involve the preparing, transcribing, and preserving of written communications and records; collecting accounts; gathering and distributing information; operating office machines and electronic data processing equipment; and distributing mail. Job titles listed in this category include telephone operators, bill and account collectors, customer service representatives, dispatchers, secretaries and administrative assistants, computer operators and clerks (such as payroll, shipping, stock, mail and file).

BUILDING AND GROUNDS CLEANING AND MAINTENANCE: This category includes occupations involving landscaping, housekeeping, and janitorial services. Job titles found in this category include supervisors of landscaping or housekeeping, janitors, maids, grounds maintenance workers, and pest control workers.

CONSTRUCTION AND EXTRACTION: This category includes construction trades and related occupations. Job titles found in this category include boilermakers, masons (all types), carpenters, construction laborers, electricians, plumbers (and related trades), roofers, sheet metal workers, elevator installers, hazardous materials removal workers, paperhangers, and painters. Paving, surfacing, and tamping equipment operators; drywall and ceiling tile installers; and carpet, floor and tile installers and finishers are also included in this category. First line supervisors, foremen, and helpers in these trades are also grouped in this category.

INSTALLATION, MAINTENANCE AND REPAIR: Occupations involving the installation, maintenance, and repair of equipment are included in this group. Examples of job titles found here are heating, ac, and refrigeration mechanics and installers; telecommunication line installers and repairers; heavy vehicle and mobile equipment service technicians and mechanics; small engine mechanics; security and fire alarm systems installers; electric/electronic repair, industrial, utility and transportation equipment; millwrights; riggers; and manufactured building and mobile home installers. First line supervisors, foremen, and helpers for these jobs are also included in the category.

MATERIAL MOVING WORKERS: The job titles included in this group are Crane and tower operators; dredge, excavating, and lading machine operators; hoist and winch operators; industrial truck and tractor operators; cleaners of vehicles and equipment; laborers and freight, stock, and material movers, hand; machine feeders and offbearers; packers and packagers, hand; pumping station operators; refuse and recyclable material collectors; and miscellaneous material moving workers.

PRODUCTION WORKERS: The job titles included in this category are chemical production machine setters, operators and tenders; crushing/grinding workers; cutting workers; inspectors, testers sorters, samplers, weighers; precious stone/metal workers; painting workers; cementing/gluing machine operators and tenders; etchers/engravers; molders, shapers and casters except for metal and plastic; and production workers.

3) Definition of Racial and Ethnic Terms (as used in Part IV Bidder Employment Information) (Page 3)

<p><u>White</u> (not of Hispanic Origin)-All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.</p> <p><u>Black</u> (not of Hispanic Origin)-All persons having origins in any of the Black racial groups of Africa.</p> <p><u>Hispanic</u>- All persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.</p>	<p><u>Asian or Pacific Islander</u>- All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes China, India, Japan, Korea, the Philippine Islands, and Samoa.</p> <p><u>American Indian or Alaskan Native</u>- All persons having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.</p>
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BIDDER CONTRACT COMPLIANCE MONITORING REPORT

PART 1 – Bidder Information

<p>Company Name: Street Address: City & State: Chief Executive:</p>	<p>Bidder Federal Employer Identification Number: Or Social Security Number:</p>
<p>Major Business Activity: (brief description)</p>	<p>Bidder Identification (response optional/definitions on page 1)</p> <p>-Bidder is a small contractor? Yes No -Bidder is a minority business enterprise? Yes No (If yes, check ownership category) Black Hispanic Asian American American Indian/Alaskan Native Iberian Peninsula Individual(s) with a Physical Disability Female -Bidder is certified as above by State of CT? Yes No</p>
<p>Bidder Parent Company: (If any)</p>	
<p>Other Locations in CT: (If any)</p>	

PART II - Bidder Nondiscrimination Policies and Procedures

<p>1. Does your company have a written Affirmative Action/Equal Employment Opportunity statement posted on company bulletin boards? Yes No</p>	<p>7. Do all of your company contracts and purchase orders contain non-discrimination statements as required by Sections 4a-60 & 4a-60a Conn. Gen. Stat.? Yes No</p>
<p>2. Does your company have the state-mandated sexual harassment prevention in the workplace policy posted on company bulletin boards? Yes No</p>	<p>8. Do you, upon request, provide reasonable accommodation to employees, or applicants for employment, who have physical or mental disability? Yes No</p>
<p>3. Do you notify all recruitment sources in writing of your company's Affirmative Action/Equal Employment Opportunity employment policy? Yes No</p>	<p>9. Does your company have a mandatory retirement age for all employees? Yes No</p>
<p>4. Do your company advertisements contain a written statement that you are an Affirmative Action/Equal Opportunity Employer? Yes No</p>	<p>10. If your company has 50 or more employees, have you provided at least two (2) hours of sexual harassment training to all of your supervisors? Yes No N/A</p>
<p>5. Do you notify the Ct. State Employment Service of all employment openings with your company? Yes No</p>	<p>11. If your company has apprenticeship programs, do they meet the Affirmative Action/Equal Employment Opportunity requirements of the apprenticeship standards of the Ct. Dept. of Labor? Yes No N/A</p>
<p>6. Does your company have a collective bargaining agreement with workers? Yes No</p> <p>6a. If yes, do the collective bargaining agreements contain non-discrimination clauses covering all workers? Yes No</p> <p>6b. Have you notified each union in writing of your commitments under the nondiscrimination requirements of contracts with the state of CT? Yes No</p>	<p>12. Does your company have a written affirmative action Plan? Yes No If no, please explain.</p> <p>13. Is there a person in your company who is responsible for equal employment opportunity? Yes No If yes, give name and phone number:</p>

1. Will the work of this contract include subcontractors or suppliers? Yes No

1a. If yes, please list all subcontractors and suppliers and report if they are a small contractor and/or a minority business enterprise. (defined on page 1 / use additional sheet if necessary)

1b. Will the work of this contract require additional subcontractors or suppliers other than those identified in 1a. above? Yes No

PART IV - Bidder Employment Information

Date:

JOB CATEGORY*	OVERALL TOTALS	WHITE (not of Hispanic origin)		BLACK (not of Hispanic origin)		HISPANIC		ASIAN or PACIFIC ISLANDER		AMERICAN INDIAN or ALASKAN NATIVE	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Management											
Business & Financial Ops											
Marketing & Sales											
Legal Occupations											
Computer Specialists											
Architecture/Engineering											
Office & Admin Support											
Bldg/ Grounds Cleaning/Maintenance											
Construction & Extraction											
Installation , Maintenance & Repair											
Material Moving Workers											
Production Occupations											
TOTALS ABOVE											
Total One Year Ago											
FORMAL ON THE JOB TRAINEES (ENTER FIGURES FOR THE SAME CATEGORIES AS ARE SHOWN ABOVE)											
Apprentices											
Trainees											

*NOTE: JOB CATEGORIES CAN BE CHANGED OR ADDED TO (EX. SALES CAN BE ADDED OR REPLACE A CATEGORY NOT USED IN YOUR COMPANY)

1. Which of the following recruitment sources are used by you? (Check yes or no, and report percent used)				2. Check (X) any of the below listed requirements that you use as a hiring qualification (X)		3. Describe below any other practices or actions that you take which show that you hire, train, and promote employees without discrimination
SOURCE	YES	NO	% of applicants provided by source			
State Employment Service					Work Experience	
Private Employment Agencies					Ability to Speak or Write English	
Schools and Colleges					Written Tests	
Newspaper Advertisement					High School Diploma	
Walk Ins					College Degree	
Present Employees					Union Membership	
Labor Organizations					Personal Recommendation	
Minority/Community Organizations					Height or Weight	
Others (please identify)					Car Ownership	
					Arrest Record	
					Wage Garnishments	

Certification (Read this form and check your statements on it CAREFULLY before signing). I certify that the statements made by me on this BIDDER CONTRACT COMPLIANCE MONITORING REPORT are complete and true to the best of my knowledge and belief, and are made in good faith. I understand that if I knowingly make any misstatements of facts, I am subject to be declared in non-compliance with Section 4a-60, 4a-60a, and related sections of the CONN. GEN. STAT.

(Signature)	(Title)	(Date Signed)	(Telephone)
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State of Connecticut COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES

Contract Compliance Unit – 450 Columbus Blvd., Suite 2, Hartford, CT 06103

Promoting Equality and Justice for all People

NOTICE CONCERNING CONTRACT COMPLIANCE RESPONSIBILITIES

To All Labor Unions, Workers Representatives, and Vendors:

Any State of Connecticut-funded contract that this contractor holds shall be performed in accordance with Conn. Gen. Stat. §§ 4a-60, 4a-60a, and 4a-60g.

This means that this contractor:

1. Agrees to provide the Commission on Human Rights and Opportunities (“CHRO”) with any information concerning this contractor's employment practices and procedures which relates to the Commission’s responsibilities under Conn. Gen. Stat. §§ 4a-60, 4a-60a, 4a-60g or 46a-56; and
2. Agrees to include the provisions of Conn. Gen. Stat. §§ 46a-60(a) and 4a-60a in each and every subcontract and purchase order and to take whatever action the CHRO deems necessary to enforce these provisions.

WITH REGARD TO RACE, COLOR, RELIGIOUS CREED, AGE, MARITAL STATUS, NATIONAL ORIGIN, ANCESTRY, SEX, GENDER IDENTITY OR EXPRESSION, STATUS AS A VETERAN, STATUS AS A VICTIM OF DOMESTIC VIOLENCE, INTELLECTUAL DISABILITY, MENTAL RETARDATION OR PHYSICAL DISABILITY, INCLUDING, BUT NOT LIMITED TO, BLINDESS, this means that this contractor:

1. Shall not discriminate or permit discrimination against anyone;
2. Shall take affirmative action so that persons applying for employment are hired on the basis of job-related qualifications and that employees once hired are treated without regard to race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status as a veteran, status as a victim of domestic violence, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the work involved;
3. Shall state, in all solicitations or advertisements for employees placed by or on behalf of the contractor, that it is an affirmative action-equal opportunity employer;
4. Shall comply with Conn. Gen. Stat. §§ 4a-60, 46a-68e, and 46a-68f and with each regulation or relevant order issued by the CHRO pursuant to sections 46a-56, 46a-68e, 46a-68f, and 46a-86
5. Shall make good faith efforts to employ minority business enterprises as subcontractors and as suppliers of materials.



State of Connecticut
COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES

Contract Compliance Unit – 450 Columbus Blvd., Suite 2, Hartford, CT 06103

Promoting Equality and Justice for all People

WITH REGARD TO SEXUAL ORIENTATION AND GENDER IDENTITY OR EXPRESSION:

1. The contractor will not discriminate or permit discrimination against anyone, and employees will be treated without regard to their sexual orientation, gender identity or expression once employed; and
2. The contractor agrees to fully comply with Conn. Gen. Stat. § 4a-60a and each regulation or relevant order issued by the CHRO under Conn. Gen. Stat. § 46a-56.

Persons having questions about this notice or their rights under the law are urged to contact the:

COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES
AFFIRMATIVE ACTION AND CONTRACT COMPLIANCE UNIT
450 Columbus Boulevard, Suite 2
Hartford, CT 06103
(860) 541-3434

**COPIES OF THIS NOTICE SHALL BE POSTED IN CONSPICUOUS PLACES
AVAILABLE TO ALL EMPLOYEES AND APPLICANTS FOR EMPLOYMENT**

Submit a CHRO project-specific Set-Aside Plan (“SAP”) to the CHRO when

- The project does not have a construction manager; your company has a contract with the owner; and the State-funded portion of your company’s contract value is \$50,000.00–\$999,999.99.
- The project has a construction manager; and the State-funded portion of your company’s contract value is \$50,000.00 or more.

Submit a CHRO project-specific Affirmative Action Plan (“AAP”) to the CHRO when

- The project does not have a construction manager; your company has a contract with the owner; and the State-funded portion of your company’s contract value is \$1,000,000.00 or more.
- Your company is the construction manager.

If you have any questions, please contact the Contract Compliance Unit at (860) 541-3434.

Instructions for Filing CHRO Reporting Forms

Please note, all reports filed with CHRO must have the original signature (blue ink preferred) and official title of the company's authorized agent. A copy must be sent to the Awarding Agency/CMR and a copy should be kept for your records.

Form 257	<p>Monthly Employment Utilization Report</p> <ul style="list-style-type: none"> To be completed every month from the date that the project started. For the months employee(s) did not work on the project site, fill out one form for each month & check the box located at the bottom of the form marked, "Did not perform work on this project for this month." The last month the employee(s) worked on the job (i.e. the month the company walked off the project site) please fill out a Form 257 & write at the bottom of the form in BIG BOLD letters "FINAL".
Form 257a	<p>Monthly Employment Utilization Report for non-trade workers on site (i.e. Bookkeeper, Project Manager, Receptionist)</p> <ul style="list-style-type: none"> To be completed every month from the date that the project started only if "On Site Personnel (Other than Trade Workers)" worked on the job. Follow instructions above for Form 257 when a non-trade worker employee is on the site. If there are no non-trade worker employee(s) on the site, do not submit Form 257a.
Form 257b	<p>Cumulative Employment Utilization Report</p> <ul style="list-style-type: none"> The last month the employee(s) worked at the project site, please fill out a Form 257b (as well as the FINAL Form 257 mentioned above) & write at the bottom of the form in BIG BOLD letters "FINAL". Form 257b is a total of all the work hours the employees have worked on the project. Therefore, if you add up all of the hours from each of the Form 257's that have been filed for this project, that number should correspond with the number of total work hours reported on the Form 257b.
Revised Forms 257 & 257b	<p>Punch List Items or Other Events</p> <ul style="list-style-type: none"> If a sub returns to the job to do punch list items or other events after filling out FINAL filings, a Revised Final Form 257 for the months that they worked on the punch list items, as well as a Revised Form 257b must be filed. These revised reports should be marked in BIG BOLD letters "REVISED MM/DD/YYYY."
Form 258	<p>Quarterly Payment Status Report (project > 12 months)</p> <ul style="list-style-type: none"> Effective January 1, 2017, the Commission has suspended the use of Form 258 Quarterly Payment Status Report. Thereafter, only Form 258a Monthly Payment Status Report will be used for all projects, regardless of their duration. Going forward, all reporting requirements will be on a monthly basis. This measure is being implemented to facilitate the reporting requirements.
Form 258a	<p>Monthly Payment Status Report</p> <ul style="list-style-type: none"> Effective January 1, 2017, Form 258a Monthly Payment Status Report is required for all projects. If you are filling out a Form 258a for the last month of the project, write at the bottom of the form in BIG BOLD letters "FINAL".
Form 259	<p>Monthly Materials Consumption Report</p> <ul style="list-style-type: none"> Material/Service Supplier submits every month from the date that the project started until the final delivery of material/service. The officer of the company signs in the box that corresponds as to whether they "Did Supply Materials" that month or they "Did Not Supply Materials" that month. At the end of the last month in which the material/service provider provided material or service for this project, write at the bottom of the form in BIG BOLD letters "FINAL".

Copies of CHRO reports can be obtained by logging onto www.ct.gov/chro and go to "Forms" and select the required form under the second heading "Forms and Reports for Construction Workers."

Commission on Human Rights and Opportunities Contract Compliance Unit 450 Columbus Blvd Ste 2 Hartford CT 06103	1. MONTHLY EMPLOYMENT UTILIZATION REPORT <i>(FORM chro cc-257)</i>	PROJECT AREA (MSA): _____ 2. EMPLOYERS FEIN NO. _____	3. PROJECT AAP GOALS MINORITY: _____ FEMALE: _____	4. REPORTING PERIOD FROM: _____ TO: _____
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GENERAL CONTRACTOR: PROJECT NAME: CONTRACT NUMBER:	NAME AND LOCATION OF CONTRACTOR (submitting report):	STATE AWARDING AGENCY:
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5. CONSTRUCTION TRADE (please identify)	CLASSIFICATION	6. WORK HOURS OF TRADE WORKERS EMPLOYED ON PROJECT										9. TOTAL NUMBER OF EMPLOYEES		10. TOTAL NUMBER OF MINORITY EMPLOYEES	
		6a. TOTAL HOURS BY TRADE		6b. BLACK (Not of Hispanic Origin)		6c. HISPANIC		6d. ASIAN OR PACIFIC ISLANDERS		6e. AMERICAN INDIAN OR ALASKAN NATIVE					
		M	F	M	F	M	F	M	F	M	F	M	F	M	F
	Journey Worker Apprentice Trainee SUB-TOTAL														
	Journey Worker Apprentice Trainee SUB-TOTAL														
	Journey Worker Apprentice Trainee SUB-TOTAL														
	Journey Worker Apprentice Trainee SUB-TOTAL														
	Journey Worker Apprentice Trainee SUB-TOTAL														
	TOTAL JOURNEY WORKERS														
	TOTAL APPRENTICES														
	TOTAL TRAINEES														
	GRAND TOTAL														

11. COMPANY OFFICIALS SIGNATURE , PRINTED NAME AND PRINTED TITLE	12. TELEPHONE NUMBER (Including area code)	13. DATE SIGNED	PAGE _____ OF _____
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Did not perform work on this project for this month (Please place an "X" in the box if your company did not perform work on this project for this month only.)

Commission on Human Rights and Opportunities Contract Compliance Unit 450 Columbus Blvd Ste 2 Hartford CT 06103	1. MONTHLY EMPLOYMENT UTILIZATION REPORT (FORM chro cc-257A)	PROJECT AREA (MSA): _____ 2. EMPLOYER'S FEIN NO. _____	3. PROJECT AAP GOALS MINORITY: _____ FEMALE: _____	4. REPORTING PERIOD FROM: _____ TO: _____												
GENERAL CONTRACTOR: PROJECT NAME: CONTRACT NUMBER:		NAME AND LOCATION OF CONTRACTOR (submitting report):		STATE AWARDING AGENCY:												
5. ON SITE PERSONNEL (OTHER THAN TRADE WORKERS) <i>(please identify specific job title)</i>	6. WORK HOURS OF WORKERS (OTHER THAN TRADE WORKERS) EMPLOYED ON PROJECT								9. TOTAL NUMBER OF EMPLOYEES	10. TOTAL NUMBER OF MINORITY EMPLOYEES						
	6a. TOTAL HOURS BY TRADE		6b. BLACK (Not of Hispanic Origin)		6c. HISPANIC		6d. ASIAN OR PACIFIC ISLANDERS		6e. AMERICAN INDIAN OR ALASKAN NATIVE		7. MINORITY PERCENT	8. FEMALE PERCENT	M F	M F	M F	
GRAND TOTAL WORKERS																
11. COMPANY OFFICIALS SIGNATURE , PRINTED NAME AND PRINTED TITLE					12. TELEPHONE NUMBER (Including area code)					13. DATE SIGNED			PAGE _____ OF _____			

Commission on Human Rights and Opportunities Contract Compliance Unit 450 Columbus Blvd Ste 2 Hartford CT 06103			1. CUMULATIVE EMPLOYMENT UTILIZATION REPORT (FORM chro cc-257b)		PROJECT AREA (MSA): _____		2. EMPLOYERS FEIN NO. _____		3. PROJECT PLAN GOALS MINORITY: _____ FEMALE: _____		4. PROJECT DURATION START DATE: _____ END DATE : _____						
GENERAL CONTRACTOR: PROJECT NAME: CONTRACT NUMBER:				NAME AND LOCATION OF CONTRACTOR (submitting report):						STATE AWARDING AGENCY:							
5. CONSTRUCTION TRADE (please identify)	CLASSIFICATION	6. CUMULATIVE WORK HOURS OF TRADE WORKERS EMPLOYED ON PROJECT										9. CUMULATIVE NUMBER OF EMPLOYEES M F		10. CUMULATIVE NUMBER OF MINORITY EMPLOYEES M F			
		6a. CUMULATIVE HOURS BY TRADE M F		6b. BLACK (Not of Hispanic Origin) M F		6c. HISPANIC M F		6d. ASIAN OR PACIFIC ISLANDERS M F		6e. AMERICAN INDIAN OR ALASKAN NATIVE M F						7. CUMULATIVE MINORITY PERCENT	
	Journey Worker Apprentice Trainee CUMULATIVE TOTAL																
	Journey Worker Apprentice Trainee CUMULATIVE TOTAL																
	Journey Worker Apprentice Trainee CUMULATIVE TOTAL																
	Journey Worker Apprentice Trainee CUMULATIVE TOTAL																
	Journey Worker Apprentice Trainee CUMULATIVE TOTAL																
CUMULATIVE TOTAL JOURNEY WORKERS																	
CUMULATIVE TOTAL APPRENTICES																	
CUMULATIVE TOTAL TRAINEES																	
CUMULATIVE GRAND TOTAL																	
11. COMPANY OFFICIALS SIGNATURE , PRINTED NAME AND PRINTED TITLE				12. TELEPHONE NUMBER (Including area code)				13. DATE SIGNED				PAGE _____ OF _____					

FORM CHRO 257b

**** NOTE: The purpose of this report is to be a CUMULATIVE Employment Utilization Report (257b); cumulative meaning the total sum of all the 257s filed by your company throughout the duration of this project. Please submit this *Cumulative Employment Utilization Report (257b)* with your *FINAL 257* filing. If punch list items or other events require your company to return to the project after such filings, than please submit a *Revised 257b* with your *Revised FINAL 257*.**

**MONTHLY SMALL CONTRACTOR AND
MINORITY BUSINESS ENTERPRISE
PAYMENT STATUS REPORT**

Month Ending _____

- 1) General Contractor Name
- 2) State Contract Number
- 3) State Contract Award Agency
- 4) Project Name 5) Estimated Completion Date _____
- 6) Project Value 7) Percent Completed to Date _____
(Indicate & attach all Change Orders)
- 8) Actual Project Mobilization Date (MM/DD/YYYY)
- 9) Listing of all small contractors and minority business enterprise contractors on the project to comply with contractual small business set aside provisions:

Company Name	Total Contract Amount <i>(Indicate & attach all Change Orders)</i>	Total Payment this Month	Total Payment to Date
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Signature of Company Official

Date of Report

Printed Name and Printed Title of Person Signing

Original to: CHRO, 450 Columbus Blvd Ste 2, Hartford CT 06103
Copies to: 1) Awarding Agency
 2) Contractor's Company File

MONTHLY MATERIALS CONSUMPTION REPORT

(CHRO FORM-259)

<p>Contract Compliance Unit The Commission on Human Rights and Opportunities 450 Columbus Blvd Ste 2 Hartford CT 06103</p>	<p align="center"><u>MONTHLY MATERIALS CONSUMPTION REPORT</u></p> <p align="center">(CHRO FORM-259)*</p> <p>* TO BE FILLED OUT BY SBE/MBE/WBE/DIS CONTRACTORS/VENDORS WHOSE SOLE ROLE IN THE CONTRACT DESCRIBED BELOW IS THAT OF A "SUPPLIER OF MATERIALS."</p>
<p>NAME AND ADDRESS OF SBE/MBE/WBE/DIS CONTRACTOR/VENDOR (submitting report):</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>STATE CONTRACT NUMBER: _____</p> <p>PROJECT NAME: _____</p> <p>STATE AWARDING AGENCY _____</p> <p>REPORTING PERIOD FROM: _____ TO: _____</p>
<p>The SBE/MBE/WBE/DIS Contractor / Vendor, submitting this report, <u>DID SUPPLY MATERIALS</u> to the General Contractor, or its Subcontractors, for the monthly reporting period listed above and for use in the aforesaid contract.</p> <p>I Agree: _____ /Date: _____</p> <p>Signature of the Head of the Company</p> <p>_____</p> <p>Printed Name and Printed Title of Person Signing</p>	<p>The SBE/MBE/WBE/DIS Contractor / Vendor, submitting this report, <u>DID NOT SUPPLY MATERIALS</u> to the General Contractor or its Subcontractors, for the monthly reporting period listed above and for use in the aforesaid contract.</p> <p>I Agree: _____ /Date:-- _____</p> <p>Signature of the Head of the Company</p> <p>_____</p> <p>Printed Name and Printed Title of Person Signing</p>

Non-Discrimination and Affirmative Action Provisions for Municipal Public Works/Quasi-Public Agency Project Contracts

- (A) (1) The contractor agrees and warrants that in the performance of the contract such contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status as a veteran, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the state of Connecticut; and the contractor further agrees to take affirmative action to ensure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status as a veteran, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the work involved; (2) The contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the contractor, to state that it is an “affirmative action-equal opportunity employer” in accordance with regulations adopted by the Commission on Human Rights and Opportunities; (3) The contractor agrees to provide each labor union or representative of workers with which such contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such contractor has a contract or understanding, a notice to be provided by the Commission on Human Rights and Opportunities advising the labor union or workers' representative of the contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) The contractor agrees to comply with each provision of this section and sections 46a-68e and 46a-68f and with each regulation or relevant order issued by said commission pursuant to sections 46a-56, 46a-68e, 46a-68f and 46a-86; and (5) The contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the contractor as relate to the provisions of this section and section 46a-56.
- (B) If the contract is a public works contract, municipal public works contract or contract for a quasi-public agency project, the contractor agrees and warrants that he or she will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works or quasi-public agency project.
- (C) For the purposes of this section, “contract” includes any extension or modification of the contract, “contractor” includes any successors or assigns of the contractor, “marital status” means being single, married as recognized by the state of Connecticut, widowed, separated or divorced, and “mental disability” means one or more mental disorders, as defined in the most recent edition of the American Psychiatric Association's “Diagnostic and Statistical Manual of Mental Disorders”, or a record of or regarding a person as having one or more such disorders. For the purposes of this section, “contract” does not include a contract where each contractor is (1) a political subdivision of the state, including, but not limited to, a municipality, unless the contract is a municipal public works contract or quasi-public agency project contract, (2) any other state, as defined in section 1-267, (3) the federal government, (4) a foreign government, or (5) an agency of a subdivision, state or government described in subdivision (1), (2), (3) or (4) of this subsection.
- (D) For the purposes of this section, “minority business enterprise” means any small contractor or supplier of materials fifty-one per cent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) Who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise, and (3) who are members of a

minority, as such term is defined in subsection (a) of section 32-9n of the Connecticut General Statutes; and “good faith” means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations. “Good faith efforts” shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements.

- (E) The contractor shall develop and maintain adequate documentation, in a manner prescribed by the Commission on Human Rights and Opportunities, of its good faith efforts.
- (F) The contractor shall include the provisions of subsections (a) and (b) of this section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the state, and in every subcontract entered into in order to fulfill any obligation of a municipal public works contract or contract for a quasi-public agency project, and such provisions shall be binding on a subcontractor, vendor or manufacturer, unless exempted by regulations or orders of the Commission on Human Rights and Opportunities. The contractor shall take such action with respect to any such subcontract or purchase order as the commission may direct as a means of enforcing such provisions, including sanctions for noncompliance in accordance with section 46a-56; provided, if such contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the commission regarding a state contract, the contractor may request the state of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the state and the state may so enter.

**SECTION 008950
NO BID RESPONSE FORM**

TOWN OF HEBRON

Purchasing Office

15 Gilead St
HEBRON, CT 06248

“NO BID” RESPONSE

Name of Bid: #2026-08 GILEAD HILL ELEMENTARY CODE VIOLATION PROJECT

Date of Bid Opening: February 20, 2026 at 10:00 A.M.

For tracking, audit, and record-keeping purposes, we would very much appreciate knowing the reason why you have chosen not to submit a proposal for the above-referenced Public Bid, RFP or RFQ.

Would you please take a moment to provide a brief explanation below for not submitting a proposal to us for this purchase?

Please also indicate if you would like to continue to receive bids and quotes from us in the future for above-referenced related purchases. If we do not receive this form back, we will assume you are no longer interested in receiving bids and quotes from us.

Please continue to send me bids, quotes, and RFPs. Yes _____ No _____

Company name _____

Mailing address _____

Your name _____ Date _____

This may be mailed, faxed, or e-mailed back to us at:

Town of Hebron
Attn: Town Manager’s Office
Hebron, CT 06248
Fax: 860 228-4859
E-mail: dlanza@hebronct.com
Thank you for your response.

END OF SECTION



AIA[®]

Document A101[®] – 2017 Exhibit A

Insurance and Bonds

This Insurance and Bonds Exhibit is part of the Agreement, between the Owner and the Contractor, dated the _____ day of _____ in the year _____
(In words, indicate day, month and year.)

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

Gilead Hill Elementary School Code Violation Project
580 Gilead Street Hebron, CT

THE OWNER:
(Name, legal status and address)

Town of Hebron
15 Gilead Street Hebron, CT

THE CONTRACTOR:
(Name, legal status and address)

TABLE OF ARTICLES

- A.1 GENERAL
- A.2 OWNER'S INSURANCE
- A.3 CONTRACTOR'S INSURANCE AND BONDS
- A.4 SPECIAL TERMS AND CONDITIONS

ARTICLE A.1 GENERAL

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

ARTICLE A.2 OWNER'S INSURANCE

§ A.2.1 General

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

§ A.2.2 Liability Insurance

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

§ A.2.3 Required Property Insurance

§ A.2.3.1 Unless this obligation is placed on the Contractor pursuant to Section A.3.3.2.1, the Owner shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a builder's risk "all-risks"

ADDITIONS AND DELETIONS:

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

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

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

completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Owner's property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed and materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion and thereafter as provided in Section A.2.3.1.3, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees.

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

(Indicate below the cause of loss and any applicable sub-limit.)

Causes of Loss	Sub-Limit
----------------	-----------

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

(Indicate below type of coverage and any applicable sub-limit for specific required coverages.)

Coverage	Sub-Limit
----------	-----------

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

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

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

§ A.2.3.3 Insurance for Existing Structures

If the Work involves remodeling an existing structure or constructing an addition to an existing structure, the Owner shall purchase and maintain, until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, "all-risks" property insurance, on a replacement cost basis, protecting the existing structure against direct physical loss or damage from the causes of loss identified in Section A.2.3.1, notwithstanding the undertaking of the Work. The Owner shall be responsible for all co-insurance penalties.

§ A.2.4 Optional Extended Property Insurance.

The Owner shall purchase and maintain the insurance selected and described below.

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

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

- § A.2.4.2 Ordinance or Law Insurance**, for the reasonable and necessary costs to satisfy the minimum requirements of the enforcement of any law or ordinance regulating the demolition, construction, repair, replacement or use of the Project.
- § A.2.4.3 Expediting Cost Insurance**, for the reasonable and necessary costs for the temporary repair of damage to insured property, and to expedite the permanent repair or replacement of the damaged property.
- § A.2.4.4 Extra Expense Insurance**, to provide reimbursement of the reasonable and necessary excess costs incurred during the period of restoration or repair of the damaged property that are over and above the total costs that would normally have been incurred during the same period of time had no loss or damage occurred.
- § A.2.4.5 Civil Authority Insurance**, for losses or costs arising from an order of a civil authority prohibiting access to the Project, provided such order is the direct result of physical damage covered under the required property insurance.
- § A.2.4.6 Ingress/Egress Insurance**, for loss due to the necessary interruption of the insured's business due to physical prevention of ingress to, or egress from, the Project as a direct result of physical damage.
- § A.2.4.7 Soft Costs Insurance**, to reimburse the Owner for costs due to the delay of completion of the Work, arising out of physical loss or damage covered by the required property insurance: including construction loan fees; leasing and marketing expenses; additional fees, including those of architects, engineers, consultants, attorneys and accountants, needed for the completion of the construction, repairs, or reconstruction; and carrying costs such as property taxes, building permits, additional interest on loans, realty taxes, and insurance premiums over and above normal expenses.

§ A.2.5 Other Optional Insurance.

The Owner shall purchase and maintain the insurance selected below.

(Select the types of insurance the Owner is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance.)

- § A.2.5.1 Cyber Security Insurance** for loss to the Owner due to data security and privacy breach, including costs of investigating a potential or actual breach of confidential or private information.
(Indicate applicable limits of coverage or other conditions in the fill point below.)
- § A.2.5.2 Other Insurance**
(List below any other insurance coverage to be provided by the Owner and any applicable limits.)

Coverage

Limits

ARTICLE A.3 CONTRACTOR'S INSURANCE AND BONDS

§ A.3.1 General

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

policy or policies.

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

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

§ A.3.2 Contractor's Required Insurance Coverage

§ A.3.2.1 The Contractor shall purchase and maintain the following types and limits of insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:

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

§ A.3.2.2 Commercial General Liability

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

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

§ A.3.2.2.2 The Contractor's Commercial General Liability policy under this Section A.3.2.2 shall not contain an exclusion or restriction of coverage for the following:

- .1 Claims by one insured against another insured, if the exclusion or restriction is based solely on the fact that the claimant is an insured, and there would otherwise be coverage for the claim.
- .2 Claims for property damage to the Contractor's Work arising out of the products-completed operations hazard where the damaged Work or the Work out of which the damage arises was performed by a Subcontractor.
- .3 Claims for bodily injury other than to employees of the insured.
- .4 Claims for indemnity under Section 3.18 of the General Conditions arising out of injury to employees of the insured.
- .5 Claims or loss excluded under a prior work endorsement or other similar exclusionary language.
- .6 Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language.
- .7 Claims related to residential, multi-family, or other habitational projects, if the Work is to be performed on such a project.
- .8 Claims related to roofing, if the Work involves roofing.
- .9 Claims related to exterior insulation finish systems (EIFS), synthetic stucco or similar exterior coatings or surfaces, if the Work involves such coatings or surfaces.
- .10 Claims related to earth subsidence or movement, where the Work involves such hazards.
- .11 Claims related to explosion, collapse and underground hazards, where the Work involves such hazards.

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

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User Notes:

(69319b08ad0bc513b6f2baf3)

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

§ A.3.2.5 Workers' Compensation at statutory limits.

§ A.3.2.6 Employers' Liability with policy limits not less than (\$) each accident, (\$) each employee, and (\$) policy limit.

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

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

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

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

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

§ A.3.2.12 Insurance for the use or operation of manned or unmanned aircraft, if the Work requires such activities, with policy limits of not less than (\$) per claim and (\$) in the aggregate.

§ A.3.3 Contractor's Other Insurance Coverage

§ A.3.3.1 Insurance selected and described in this Section A.3.3 shall be purchased from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:

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

§ A.3.3.2 The Contractor shall purchase and maintain the following types and limits of insurance in accordance with Section A.3.3.1.

(Select the types of insurance the Contractor is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance. Where policy limits are provided, include the policy limit in the appropriate fill point.)

- [] **§ A.3.3.2.1** Property insurance of the same type and scope satisfying the requirements identified in Section A.2.3, which, if selected in this section A.3.3.2.1, relieves the Owner of the responsibility to purchase and maintain such insurance except insurance required by Section A.2.3.1.3 and Section A.2.3.3. The Contractor shall comply with all obligations of the Owner under Section A.2.3 except to the extent provided below. The Contractor shall disclose to the Owner the amount of any deductible, and the Owner shall be responsible for losses within the deductible. Upon request, the Contractor shall provide the Owner with a copy of the property insurance policy or policies required. The Owner shall adjust and settle the loss with the insurer and be the trustee of the proceeds of the property insurance in accordance with Article 11 of the General Conditions unless otherwise set forth below:

(Where the Contractor's obligation to provide property insurance differs from the Owner's obligations as described under Section A.2.3, indicate such differences in the space below. Additionally, if a party other than the Owner will be responsible for adjusting and settling a loss with the insurer and acting as the trustee of the proceeds of property insurance in accordance with Article 11 of the General Conditions,

indicate the responsible party below.)

- [] **§ A.3.3.2.2 Railroad Protective Liability Insurance**, with policy limits of not less than (\$) per claim and (\$) in the aggregate, for Work within fifty (50) feet of railroad property.
- [] **§ A.3.3.2.3 Asbestos Abatement Liability Insurance**, with policy limits of not less than (\$) per claim and (\$) in the aggregate, for liability arising from the encapsulation, removal, handling, storage, transportation, and disposal of asbestos-containing materials.
- [] **§ A.3.3.2.4 Insurance for physical damage to property while it is in storage and in transit to the construction site on an “all-risks” completed value form.**
- [] **§ A.3.3.2.5 Property insurance on an “all-risks” completed value form, covering property owned by the Contractor and used on the Project, including scaffolding and other equipment.**
- [] **§ A.3.3.2.6 Other Insurance**
(List below any other insurance coverage to be provided by the Contractor and any applicable limits.)

Coverage

Limits

§ A.3.4 Performance Bond and Payment Bond

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

Type	Penal Sum (\$0.00)
Payment Bond	
Performance Bond	

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

ARTICLE A.4 SPECIAL TERMS AND CONDITIONS

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

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

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

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 09:48:32 EST on 12/04/2025.

Changes to original AIA text

There are no edits to the original text

Variable Information

PAGE 1

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

Gilead Hill Elementary School Code Violation Project

580 Gilead Street Hebron, CT

Town of Hebron

15 Gilead Street Hebron, CT



AIA® Document A101® – 2017

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

AGREEMENT made as of the _____ day of _____ in the year _____

(In words, indicate day, month and year.)

BETWEEN the Owner:

(Name, legal status, address and other information)

Town of Hebron
15 Gilead Street Hebron, CT

and the Contractor:

(Name, legal status, address and other information)

for the following Project:

(Name, location and detailed description)

Gilead Hill Elementary School Code Violation Project
580 Gilead Street Hebron, CT

The Architect:

(Name, legal status, address and other information)

Friar Architecture Inc
21 Talcott Notch Road Farmington, CT 06032
860-678-1291

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:

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

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

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

TABLE OF ARTICLES

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

EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

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

ARTICLE 2 THE WORK OF THIS CONTRACT

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

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

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

(Check one of the following boxes.)

- The date of this Agreement.
- A date set forth in a notice to proceed issued by the Owner.
- Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

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

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

§ 3.3 Substantial Completion

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

(Check one of the following boxes and complete the necessary information.)

- Not later than () calendar days from the date of commencement of the Work.
- By the following date:

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

Portion of Work	Substantial Completion Date
-----------------	-----------------------------

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

ARTICLE 4 CONTRACT SUM

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

§ 4.2 Alternates

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

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

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

Item	Price	Conditions for Acceptance
------	-------	---------------------------

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

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

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

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

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

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

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

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

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

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

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

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

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

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

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- .3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

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

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and
- .5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

§ 5.1.7.1.1 The following items are not subject to retainage:

(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:

(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

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

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User Notes:

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(Insert any other conditions for release of retainage upon Substantial Completion.)

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

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

§ 5.2 Final Payment

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

- .1 the Contractor has fully performed the Contract except for the Contractor’s responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the Architect.

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

§ 5.3 Interest

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

(Insert rate of interest agreed upon, if any.)

%

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

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

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 Binding Dispute Resolution

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

(Check the appropriate box.)

- Arbitration pursuant to Section 15.4 of AIA Document A201–2017
- Litigation in a court of competent jurisdiction
- Other *(Specify)*

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

ARTICLE 7 TERMINATION OR SUSPENSION

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

§ 7.1.1 If the Contract is terminated for the Owner’s convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:

(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the

Owner's convenience.)

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

ARTICLE 8 MISCELLANEOUS PROVISIONS

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

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

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

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

§ 8.5 Insurance and Bonds

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

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

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

§ 8.7 Other provisions:

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor
- .2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds
- .3 AIA Document A201™–2017, General Conditions of the Contract for Construction
- .4 Building information modeling exhibit, dated as indicated below:
(Insert the date of the building information modeling exhibit incorporated into this Agreement.)

- .5 Drawings

Number	Title	Date
--------	-------	------

- .6 Specifications

Section	Title	Date	Pages
---------	-------	------	-------

.7 Addenda, if any:

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

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

.8 Other Exhibits:

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

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

The Sustainability Plan:

Title	Date	Pages
-------	------	-------

Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
----------	-------	------	-------

.9 Other documents, if any, listed below:

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

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

OWNER *(Signature)*

CONTRACTOR *(Signature)*

(Printed name and title)

(Printed name and title)

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

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

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 09:52:06 EST on 12/04/2025.

Changes to original AIA text

There are no edits to the original text

Variable Information

PAGE 1

AGREEMENT made as of the Fourth day of December in the year Two Thousand Twenty-Five
(In words, indicate day, month and year.)

Town of Hebron

15 Gilead Street Hebron, CT

Gilead Hill Elementary School Code Violation Project

580 Gilead Street Hebron, CT

Friar Architecture Inc

21 Talcott Notch Road Farmington, CT 06032

860-678-1291

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 09:52:06 EST on 12/04/2025 under Order No. 20240070341 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A101™ - 2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)



General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

Gilead Hill Elementary School Code Violation Project
580 Gilead Street Hebron, CT

THE OWNER:

(Name, legal status and address)

Town of Hebron
15 Gilead Street Hebron, CT

THE ARCHITECT:

(Name, legal status and address)

Friar Architecture Inc
21 Talcott Notch Rd Farmington, CT 06032

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- 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
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- 11 INSURANCE AND BONDS
- 12 UNCOVERING AND CORRECTION OF WORK
- 13 MISCELLANEOUS PROVISIONS

ADDITIONS AND DELETIONS:

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

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

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

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

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

§ 1.1.2 The Contract

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

§ 1.1.3 The Work

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

§ 1.1.4 The Project

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

§ 1.1.5 The Drawings

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

§ 1.1.6 The Specifications

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

§ 1.1.7 Instruments of Service

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

§ 1.1.8 Initial Decision Maker

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

§ 1.2 Correlation and Intent of the Contract Documents

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

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

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

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

§ 1.3 Capitalization

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

§ 1.4 Interpretation

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

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

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

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

§ 1.6 Notice

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

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

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon written protocols governing the transmission and use of, and reliance on, Instruments of Service or any other information or documentation in digital form.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to written protocols governing the use of, and reliance on, the information contained in the model shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

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

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

§ 2.2 Evidence of the Owner's Financial Arrangements

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

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

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

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

§ 2.3 Information and Services Required of the Owner

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

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

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

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

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

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

§ 2.4 Owner's Right to Stop the Work

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

§ 2.5 Owner's Right to Carry Out the Work

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

ARTICLE 3 CONTRACTOR

§ 3.1 General

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

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

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

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

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

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the

purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

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

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

§ 3.3 Supervision and Construction Procedures

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

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

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

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

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

§ 3.5 Warranty

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

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

§ 3.6 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 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

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

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct,

but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, 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 notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

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

§ 3.10 Contractor's Construction and Submittal Schedules

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

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

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

§ 3.11 Documents and Samples at the Site

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

constructed.

§ 3.12 Shop Drawings, Product Data and Samples

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

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

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

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

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

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

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

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

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

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

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

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

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

§ 3.13 Use of Site

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

§ 3.14 Cutting and Patching

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

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

§ 3.15 Cleaning Up

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

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

§ 3.16 Access to Work

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

§ 3.17 Royalties, Patents and Copyrights

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

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, 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 Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

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

§ 4.2 Administration of the Contract

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

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

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

§ 4.2.4 Communications

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

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

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

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

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

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

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

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

§ 5.3 Subcontractual Relations

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

§ 5.4 Contingent Assignment of Subcontracts

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

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

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

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

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

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

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

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

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

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

§ 6.2 Mutual Responsibility

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

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

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

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

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

§ 6.3 Owner's Right to Clean Up

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

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

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

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

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

§ 7.2 Change Orders

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

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

§ 7.3 Construction Change Directives

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

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

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

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

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

- .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;

- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .5 Costs of supervision and field office personnel directly attributable to the change.

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

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

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

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

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

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

§ 7.4 Minor Changes in the Work

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

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

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

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

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

§ 8.2 Progress and Completion

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

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

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

§ 8.3 Delays and Extensions of Time

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

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

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

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

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

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

§ 9.2 Schedule of Values

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

§ 9.3 Applications for Payment

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

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

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

whom the Contractor intends to pay.

§ 9.3.2 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, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

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

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

§ 9.5 Decisions to Withhold Certification

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

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

or
.7 repeated failure to carry out the Work in accordance with the Contract Documents.

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

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

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

§ 9.6 Progress Payments

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

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

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

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

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

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

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

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

§ 9.7 Failure of Payment

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

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work 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; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

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

§ 9.9 Partial Occupancy or Use

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

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

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

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

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

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

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

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

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

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, a Subcontractor, or a Sub-subcontractor; and
- 3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

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

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

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

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

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

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

§ 10.2.8 Injury or Damage to Person or Property

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

§ 10.3 Hazardous Materials and Substances

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

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed

by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

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

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

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

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

§ 10.4 Emergencies

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

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

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

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve

the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

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

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to

fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

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

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

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

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

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

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

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

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

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

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

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

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

§ 12.3 Acceptance of Nonconforming Work

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

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 Successors and Assigns

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

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

§ 13.3 Rights and Remedies

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

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

§ 13.4 Tests and Inspections

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

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approvals where building codes or applicable laws or regulations so require.

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

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

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

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

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

§ 13.5 Interest

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

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

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

- 1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- 2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- 3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- 4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

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

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

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

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

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

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

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

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

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

§ 14.3 Suspension by the Owner for Convenience

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

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

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

§ 14.4 Termination by the Owner for Convenience

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

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

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

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

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

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

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

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

§ 15.1.7 Waiver of Claims for Consequential Damages

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

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

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

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

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

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

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

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

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

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

may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

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

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

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

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

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

§ 15.4 Arbitration

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

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

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

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

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially

similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

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

Additions and Deletions Report for AIA® Document A201® – 2017

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

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 09:43:57 EST on 12/04/2025.

Changes to original AIA text

There are no edits to the original text

Variable Information

PAGE 1

Gilead Hill Elementary School Code Violation Project

580 Gilead Street Hebron, CT

Town of Hebron

15 Gilead Street Hebron, CT

Friar Architecture Inc

21 Talcott Notch Rd Farmington, CT 06032

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 09:43:57 EST on 12/04/2025 under Order No. 20240070341 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ - 2017, General Conditions of the Contract for Construction, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)



AIA[®]

Document A312[®] – 2010

Payment Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

Town of Hebron
15 Gilead Street Hebron, CT

CONSTRUCTION CONTRACT

Date:

Amount: \$

Description:

(Name and location)

Gilead Hill Elementary School Code Violation Project
580 Gilead Street Hebron, CT

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond:

Company: *(Corporate seal)*

Company: *(Corporate seal)*

CONTRACTOR AS PRINCIPAL
(Signature)

SURETY *(Signature)*

(Printed name and title)

(Printed name and title)

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

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

ADDITIONS AND DELETIONS:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

§ 16 Definitions

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

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

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

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

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

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

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

§ 18 Modifications to this bond are as follows:



Additions and Deletions Report for AIA[®] Document A312[®] – 2010

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

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 09:40:16 EST on 12/04/2025.

Changes to original AIA text

There are no edits to the original text

Variable Information

PAGE 1

OWNER:

(Name, legal status and address)

Town of Hebron

15 Gilead Street Hebron, CT

CONSTRUCTION CONTRACT

Date:

Amount: \$

Description:

(Name and location)

Gilead Hill Elementary School Code Violation Project

580 Gilead Street Hebron, CT

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 09:40:16 EST on 12/04/2025 under Order No. 20240070341 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A312™ - 2010, Payment Bond, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)



AIA® Document A312® – 2010

Performance Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

Town of Hebron
15 Gilead Street Hebron, CT

CONSTRUCTION CONTRACT

Date:

Amount: \$

Description:

(Name and location)

Gilead Hill Elementary School Code Violation Project
580 Gilead Street, Hebron CT

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond:

Company: *(Corporate seal)*

Company: *(Corporate seal)*

CONTRACTOR AS PRINCIPAL

(Signature)

SURETY *(Signature)*

(Printed name and title)

(Printed name and title)

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

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

ADDITIONS AND DELETIONS:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- .1** the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2** additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and

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

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

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

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

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

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

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

§ 14 Definitions

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

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

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

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

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

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

§ 16 Modifications to this bond are as follows:

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

Additions and Deletions Report for AIA® Document A312® – 2010

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Changes to original AIA text

There are no edits to the original text

Variable Information

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OWNER:

(Name, legal status and address)

Town of Hebron

15 Gilead Street Hebron, CT

CONSTRUCTION CONTRACT

Date:

Amount: \$

Description:

(Name and location)

Gilead Hill Elementary School Code Violation Project

580 Gilead Street, Hebron CT

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 09:37:31 EST on 12/04/2025 under Order No. 20240070341 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A312™ - 2010, Performance Bond, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

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. Coordination with occupants.
4. Work restrictions.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

- A. Project Site: Gilead Hill School, 580 Gilead Street, Hebron, CT
- B. Project Name: Code Violation Projects / State Project No. 067-0045 CV
- C. Architect's Project Number: 2024-021B/C
- D. Owner: Town of Hebron.

1. Owner's Rep: Richard Steiner

- E. Architect: Friar Architecture inc., 21 Talcott Notch Rd., Farmington, CT (860) 678-1291.

Other Consultants: The Architect / Owner has retained the following design professionals:

- F. Environmental Consultant: Eagle Environmental, Inc., 8 South Main Street, Suite 3, Terryville, CT 06786
- G. Electrical Engineer: RZ Design Associates, a GM2 company, 750 Old Main Street, Suite 202, Rocky Hill, CT 06067

- H. The project consists of code violation projects: abatement, firestopping systems, ceiling and lighting work. The remediation work for violations observed during an on-site review. New firestopping system assemblies will be required to create rated assemblies at the school's corridor and rated walls. Other remediation / abatement work will be required at the ceilings of Area A & Area B of the original building. The existing ceiling grid and tile will be abated, and new ceilings and lighting will be installed in the designated areas of Area A & Area B of the original building.

1.4 USE OF PREMISES

- A. General: Contractor shall have limited use of premises for construction operations as indicated on Drawings by the Contract limits. Refer to Site Logistics plan at the end of this Section.
- B. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 - 1. Limits: Confine constructions operations to building areas where work is required.
 - 2. Owner Occupancy: Allow for Owner occupancy of Project site and use by the public.
 - 3. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles always. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Use of Existing Site: Protect and maintain access to adjacent fueling station during construction operations.

1.5 COORDINATION WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy site during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
 - 1. Maintain access to existing walkways, fueling station, parking, and other adjacent occupied or used facilities. Do not close or obstruct walkways, parking, or other occupied or used areas without written permission from Owner and approval of authorities having jurisdiction.
 - 2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

1.6 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 6 a.m. to 6 p.m., Monday through Friday, unless otherwise indicated.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 1. Notify Owner not less than two days in advance of proposed utility interruptions.
 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
 1. Notify Owner not less than two days in advance of proposed disruptive operations.
 2. Obtain Owner's written permission before proceeding with disruptive operations.
- E. Nonsmoking Building: Smoking is not permitted within the building or on school property.
- F. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

1.7 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 50-division format and CSI/CSC's "Master Format" numbering system.
 1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
 2. Division 01: Sections in Division 01 govern the execution of the Work of all Sections in the Specifications.
- B. 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. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor.

Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

- a. 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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 011001 – HAZARDOUS MATERIALS GENERAL CONDITIONS

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.
- B. Related Sections:
 - 1. Section 011600: Hazardous Materials Scheduling and Phasing
 - 2. Section 012200: Hazardous Materials Unit Prices
 - 3. Section 017701: Hazardous Materials Contract Closeout
 - 4. Section 020750: Selective Demolition for Hazardous Materials Abatement
 - 5. Section 020800: Asbestos Abatement
 - 6. Section 020820: Universal Waste Reclamation
 - 7. Section 020900: Lead Paint Awareness

1.2 HAZARDOUS MATERIALS ABATEMENT CONTRACTOR (HMAC) QUALIFICATIONS

- A. All bidders shall submit a record of prior experience in asbestos abatement projects, listing no less than three (3) completed jobs in the past year, with all projects of similar size and scope. The Hazardous Materials Abatement Contractor (HMAC) shall list the experience and training of the site supervisor and all on-site workers. The information that shall be included is as follows:
 - 1. Project Name and Address
 - 2. Owner's Name and Address
 - 3. Architect/Consultant/Construction Manager
 - 4. Contract Amount
 - 5. Date of Completion
 - 6. Extras and Change Orders
- B. The HMAC selected must appear on the approved list of Asbestos Abatement contractors on file at the State of Connecticut Department of Public Health (CTDPH).
- C. Submit a written statement regarding whether the HMAC has ever been found out-of-compliance with federal or state asbestos and/or lead regulations pertaining to worker protection, removal, transport, or disposal.
- D. Award of this Contract may not necessarily be based solely on the submitted lowest Base Bid amount. The Owner reserves the right to award this Contract to the Bidder who best meets all HMAC qualifications.

1.3 HMAC USE OF SITE AND PREMISES

- A. Limit use of Site and premises as follows:

1. Owner occupancy.
 2. Work by Owner.
 3. Use of Site and premises by public.
- B. Coordinate use of the premises under the direction of the Owner.
- C. Assume full responsibility for protection and safekeeping of products under this Contract.
- D. The HMAC shall not interfere with general Site operations. The HMAC shall coordinate parking for employees with the Owner.
- E. The HMAC shall coordinate location of waste container(s) with Owner operations.

1.4 WORK PHASING

- A. Work under this project may be performed in phases to accommodate Owner's/Architect's requirements and remaining construction phases. Coordinate abatement schedule and operations with the Owner/Consultant and other trades.
- B. The HMAC shall become familiar with the phasing of this work and shall include the required mobilization and re-mobilization as necessary to support the work phasing.
- C. No work shall be performed while there are students or children under eighteen (18) years of age present in the building or on school grounds.

1.5 OWNER'S OPERATIONS

- A. Schedule the Work to accommodate this requirement.
- B. Maintain means of egress.
- C. Coordinate Work with the Owner, the Architect, and the Owner's Consultant.
- D. Maintain the fire alarm and fire detection systems active at all time during construction.
- E. Maintain permanent means of egress during construction. Provide and maintain temporary means of egress as required by Fire Marshall.

1.6 CLOSEOUT AND PUNCH LIST

- A. The HMAC shall carefully check his/her own work and that of any Subcontractor as the work is being performed. Unsatisfactory work shall be corrected immediately.
- B. When the HMAC determines that he is substantially complete, that is, has less than one percent of his Contract remaining to be completed, he shall prepare for submission to the Owner's Consultant, a list of items to be completed or corrected. The failure to include any items on such list does not alter the responsibility of the HMAC to complete all work in accordance with the Contract Documents.

- C. Upon receipt of the HMAC's list of items to be completed or corrected, the Owner's Consultant will promptly make a thorough inspection and prepare a "punch list" setting forth in accurate detail any items on the HMAC's list and any additional items that are not acceptable.
- D. When the "punch list" has been prepared, the Owner's Consultant will arrange a meeting with the HMAC to identify and explain all punch list items and answer questions on the work that must be completed before final acceptance.
- E. The HMAC shall correct all "punch list" items or shall cause the correction of the "punch list" items within a time frame to be established when the "punch list" is made. The time frame for the completion of the "punch list" shall not exceed the completion date of the Contract. Should the "punch list" not be completed within the specified time frame, the Owner may invoke the rights given under the General Conditions.
- F. The Owner's Consultant shall not be expected to inspect any area more than once for the preparation of the "punch list" items. If, during an inspection, the Owner's Consultant discovers five (5) or more deficient conditions, then the area shall be declared "Not Ready" for Inspection.
- G. All inspections and sampling required for hazardous materials abatement compliance will be performed by the Owner's Consultant.

1.7 CLEANING

- A. Throughout the construction period, the HMAC shall maintain the building and the site free of rubbish, debris, surplus materials, and other items not required for the Work. Remove such material from the site daily to prevent accumulations. Remove all construction debris from work areas, and remove all hazardous waste and asbestos waste as required by the most current federal, state, and local regulations and the requirements of the specifications.

1.8 ADDITIONAL GENERAL REQUIREMENTS

- A. The HMAC shall employ a competent and English-speaking Asbestos Abatement Supervisor with at least three (3) years of experience on projects of similar scope and magnitude. The Supervisor shall be responsible for all work involving hazardous materials abatement as described in the specifications and defined in the applicable regulations, and have full time daily supervision of the same. The Supervisor shall be the "Competent Person" as defined by OSHA regulations.
- B. The HMAC shall allow the work of this contract to be inspected, if required, by local, state, federal, and any other authorities having jurisdiction over such work. The HMAC shall immediately notify the Owner and Owner's Consultant and shall maintain written evidence of such inspection for review by the Owner and Consultant.
- C. The HMAC shall incur the cost of all fines resulting from regulatory non-compliance as issued by federal, state, and local agencies. The HMAC shall incur the cost of all work requirements mandated by federal, state, and local agencies as a result of regulatory non-compliance or negligence.

- D. The HMAC shall immediately notify the Owner and Owner's Consultant of the delivery of all permits, licenses, certificates of inspection, of approval or occupancy, etc., and any other such instruments required under codes by authorities having jurisdiction, regardless to who issued, and shall cause them to be displayed to the Owner and Owner's Consultant for verification and recording.
- E. No work shall be performed while there are students or children under eighteen (18) years of age present in the building or on school grounds.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 010160 - HAZARDOUS MATERIALS SCHEDULING AND PHASING

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.
- B. Related Sections:
 - 1. Section 011001: Hazardous Materials General Conditions
 - 2. Section 012200: Hazardous Materials Unit Prices
 - 3. Section 017701: Hazardous Materials Contract Closeout
 - 4. Section 020750: Selective Demolition for Hazardous Materials Abatement
 - 5. Section 020800: Asbestos Abatement
 - 6. Section 020820: Universal Waste Reclamation
 - 7. Section 020900: Lead Paint Awareness

1.2 GENERAL REQUIREMENTS

- A. The abatement work for this project may be conducted in phases. The work of this project shall begin upon receipt of the "Notice to Proceed" from the Owner. A Pre-Construction Meeting shall be scheduled by the Owner and must be attended by the Hazardous Materials Abatement Contractor (HMAC) and any Sub-Contractors. The assigned Site Supervisor(s) must also attend this meeting.
- B. A working schedule for each phase of work shall be presented by the HMAC at the Pre-Construction Meeting. Variations, amendments, and corrections to the presented schedule will be discussed and the Owner will inform the HMAC of additions or changes in the scheduling requirements for the project.
- C. As a result of the Pre-Construction Meeting, the HMAC shall submit a revised schedule no later than three (3) business days from the Pre-Construction Meeting. Upon approval from the Owner/Consultant, the HMAC will receive a "Notice to Proceed" with the work of the Contract.
- D. Refer to all other applicable sections of the specification for coordination with other trades. The abatement HMAC shall coordinate work with all other activities at this occupied site.
- E. No work shall be performed while there are students or children under eighteen (18) years of age present in the building or on school grounds. Coordinate abatement schedule with the Owner and the Owner's Consultant.

1.3 TIME FOR COMPLETION AND WORKING HOURS

- A. Upon award of contract from the Owner, the HMAC shall immediately submit state and federal notifications, order materials, supplies, and components for the work of this project.

- B. The HMAC shall begin the work immediately upon receipt of the written "Notice to Proceed" from the Owner. The date of the commencement of the work is termed the "Construction Start Date." The HMAC will be required to complete all work of this Contract within the time period stipulated in the finalized schedule. The last day in the schedule is termed as "Contract Completion Date."
- C. If conditions arise that are beyond the control of the HMAC and force delays in the performance of the Work, the Owner shall be immediately notified. The HMAC shall state the reason for the delay and shall estimate the expected duration of the delay. Any application for an extension of the Contract completion date shall be made under proper change order procedures. The acceptance of the cause for delay and change order is subject to the Owner's review and approval.
- D. Work hours will be established in coordination with the Owner and Owner's Consultant.
- E. Any extra hours or days per week worked by the HMAC or Sub-Contractors shall be at no extra cost to the Owner. Denial of extra hours or days per week by the Owner shall not be grounds for extra time allotted to the overall Contract time. The HMAC shall be responsible for all overtime payment to cover Consultant's overtime fees for work performed above and beyond normal working hours.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

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.
 - 1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
 - 1. Lump-sum allowances.
 - 2. Quantity allowances.
 - 3. Contingency allowances.
 - 4. Testing and inspecting allowances.
- C. Related Requirements:
 - 1. Division 01 Section "Quality Requirements" for procedures governing the use of allowances for testing and inspecting.
 - 2. Division 01 Section "Unit Prices" for items of Work covered beyond allowances.

1.3 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

1.4 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 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.7 LUMP-SUM AND QUANTITY 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 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.

1.8 CONTINGENCY ALLOWANCES

- A. Use the contingency allowance only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the

Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.

- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins.
- D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

1.9 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, and similar margins.
 - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
 - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
 - 3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
 - 4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.
 - 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.
- C. All Allowances unused at the completion of the Project will be returned to the Owner.

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: Firestopping System at existing 2-hour fire separation wall: Include an allowance of \$10,000.00 for use in firestopping any existing faulty or unprotected openings in the existing designated fire separation wall. This wall occurs in **Area A, original building between Corridor A4 / A5** and runs the width of the building. Remedial work to include removal and replacement of existing ceiling tiles to access areas.

- 1. Coordinate quantity allowance adjustment with unit-price requirements in Section 012200 "Unit Prices."

- B. Allowance No. 2: Firestopping System at existing 2-hour fire separation wall: Include an allowance of \$1,500.00 for use in firestopping any existing faulty or unprotected openings in the existing designated fire separation wall. This wall occurs **between Area A & Area E, between Corridor A3 / E2** and runs the width of the corridors. Remedial work to include removal and replacement of existing ceiling tiles to access areas. Per the direction of the Architect and according to Owner's written instructions.

- 1. Coordinate quantity allowance adjustment with unit-price requirements in Section 012200 "Unit Prices."

END OF SECTION 012100

SECTION 012200 – HAZARDOUS MATERIALS UNIT PRICES

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.
- B. Related Sections:
 - 1. Section 011001: Hazardous Materials General Conditions
 - 2. Section 011600: Hazardous Materials Scheduling and Phasing
 - 3. Section 017701: Hazardous Materials Contract Closeout
 - 4. Section 020750: Selective Demolition for Hazardous Materials Abatement
 - 5. Section 020800: Asbestos Abatement
 - 6. Section 020820: Universal Waste Reclamation
 - 7. Section 020900: Lead Paint Awareness
 - 8. Section 012201: Architectural Unit Prices

1.2 SUMMARY

- A. A unit price is an amount proposed by Bidders and stated on the Bid Form as a price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by Change Order in the event the project Scope of Work is altered.
- B. Unit prices shall include costs of all materials, all direct or indirect expenses of the Asbestos Abatement Contractor (AAC) or Sub-Contractors, profit, insurance, bonding, and any applicable taxes. For deleted work, the net credit to the contract shall be 10% less.
- C. Unit prices shall be used for work outside of the base bid and to quantify actual value of quantity allowances.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 UNIT PRICE SCHEDULE

- A. Unit Prices in accordance with the following schedule will apply to this Contract. Unit prices include labor, disposal, and all necessary fees.

Item No. 1 – ASBESTOS CONTAINING CEILING TILE, REMOVAL AND DISPOSAL AS FRIABLE ASBESTOS.

\$ _____ per square foot.

Item No. 2 – ASBESTOS CONTAINING PIPE FITTING INSULATION, REMOVAL AND DISPOSAL AS FRIABLE ASBESTOS.

\$ _____ per square foot.

Item No. 3 – PREPARATION OF A SMALL CONTAINMENT (for abating asbestos >3 SF/3 LF but <260 LF/160 SF) WITH DECONTAMINATION UNIT (including remobilization, if necessary).

\$ _____ per containment.

Item No. 4 – PREPARATION OF A LARGE CONTAINMENT (for abating asbestos >260 LF/160 SF) WITH DECONTAMINATION UNIT (including remobilization, if necessary).

\$ _____ per containment.

END OF SECTION

SECTION 012201 – ARCHITECTURAL UNIT PRICES

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 unit prices.
- B. Related Requirements:
 - 1. Section 012100 "Allowances".
 - 2. Section 012200 "Hazardous Material Unit Prices".
 - 3. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
 - 4. Section 014000 "Quality Requirements" for general testing and inspecting requirements.

1.3 DEFINITIONS

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Unit Price No. 1: Firestopping System at existing 2-hour fire separation wall – masonry.
 - 1. Description: Replacement and /or installation of a new fire stopping system assembly at existing masonry wall and patching of existing masonry wall per direction of Architect and in accordance with Section 017300 "Execution", and as indicated in the Contract Documents.
 - 2. Unit of Measurement: Per fire penetration opening.

- B. Unit Price No. 2: Firestopping System at existing 2-hour fire separation wall – gypsum board / metal stud framing.
 - 1. Description: Replacement and /or installation of a new fire stopping system assembly at existing gypsum board wall construction and patching of existing gypsum board wall per direction of Architect and in accordance with Section 017300 "Execution", and as indicated in the Contract Documents.
 - 2. Unit of Measurement: Per fire penetration opening.

END OF SECTION 012200

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 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use CSI Form 13.1A.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.

- b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven 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.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. All substitution requests shall be submitted during the bid phase of the project. Owner/Architect will consider requests for substitution during the bid phase, prior to bid submission and opening. Acceptance/rejection of proposed substitutions will be issued to all Bidders via addenda. Requests received after that time may be considered or rejected at discretion of Owner/Architect.
- B. Substitutions for Cause:
 - 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 provides specified warranty.
 - f. 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.
- C. Substitutions for Convenience:
 - 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 offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
- b. Requested substitution does not require extensive revisions to the Contract Documents.
- c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
- d. Substitution request is fully documented and properly submitted.
- e. Requested substitution will not adversely affect Contractor's construction schedule.
- f. Requested substitution has received necessary approvals of authorities having jurisdiction.
- 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.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

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. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections include the following:
 - 1. Division 01 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after 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, on AIA Document G710, "Architect's Supplemental Instructions."

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. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within 20 days 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 unforeseen conditions require modifications to the Contract, Contractor may propose changes 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 Division 01 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: Use AIA Document G709 for Proposal Requests.

1.5 ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, base each Change Order proposal on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
1. Include installation costs in purchase amount only where indicated as part of the allowance.
 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
 3. Substantiate change in scope of work, claimed in Change Orders related to unit-cost allowances.
 4. Owner reserves the right to establish the quantity of work-in-place by survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the Purchase Order amount or Contractor's handling, labor, installation, overhead, and profit. Submit claims within 21 days of receipt of

the Change Order or Construction Change Directive authorizing work to proceed. Owner will reject claims submitted later than 21 days after such authorization.

1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

1.6 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

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. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections include the following:
 - 1. Division 01 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 2. Division 01 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals 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. Correlate 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. Submittals Schedule.
 - c. Contractor's Construction Schedule.
 - 2. Submit the Schedule of Values to Architect at earliest possible date but no later than 5 days before the date scheduled for submittal of initial Applications for Payment.

- B. Format and Content: Use the 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. Submit draft of AIA Document G703 Continuation Sheets.
 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.
 - 1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
 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 specified, include evidence of insurance or bonded warehousing.
 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. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
 9. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

- a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
10. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets 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 of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Transmittal: Submit 3 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.
- F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit 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 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 waivers of lien on forms, executed in a manner acceptable to Owner.
- G. 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. Copies of building permits.
 5. Certificates of insurance and insurance policies.
 6. Performance and payment bonds.
 7. Certified Payroll.
- H. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- I. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. 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. AIA Document G707, "Consent of Surety to Final Payment."

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

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. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Coordination Drawings.
 - 2. Administrative and supervisory personnel.
 - 3. Project meetings.
 - 4. Requests for Interpretation (RFIs).
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.
- C. Related Sections include the following:
 - 1. Division 01 Section "Construction Progress Documentation" for preparing and submitting Contractor's Construction Schedule.
 - 2. Division 01 Section "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Division 01 Section "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

- A. RFI: Request from Contractor seeking interpretation or clarification of the Contract Documents.

1.4 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.
- 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.
 9. Project closeout activities.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

1.5 SUBMITTALS

- A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.

1. Content: Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:
 - a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - b. Indicate required installation sequences.
 - c. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
2. Sheet Size: At least 8-1/2 by 11 inches, but no larger than 30 by 40 inches.
3. Number of Copies: Submit two opaque copies of each submittal. Architect will return one copy.
4. Refer to individual Sections for Coordination Drawing requirements for Work in those Sections.

- B. Key Personnel Names: Within 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 and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.6 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.

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: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.

- B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Testing Agency, Special Inspector, Building Official, Fire Marshal; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. All 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. Procedures for processing field decisions and Change Orders.
 - c. Procedures for RFIs.
 - d. Procedures for processing Applications for Payment.
 - e. Submittal procedures.
 - f. Preparation of Record Documents.
 - g. Use of the premises and existing building.
 - h. Work restrictions.
 - i. Owner's occupancy requirements.
 - j. Parking availability.
 - k. Office, work, and storage areas.
 - l. Equipment deliveries and priorities.
 - m. Progress cleaning.
 - n. Working hours.
 3. Minutes: Record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Possible conflicts.
 - b. Time schedules.
 - c. Weather limitations.
 - d. Manufacturer's written recommendations.
 - e. Acceptability of substrates.
 - f. Protection of adjacent work.
 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.

4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: Conduct progress meetings at regular intervals. Coordinate dates of meetings with preparation of payment requests.
1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. 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) Status of submittals.
 - 2) Deliveries.
 - 3) Progress cleaning.
 - 4) Quality and work standards.
 - 5) Field observations.
 - 6) RFIs.
 - 7) Status of proposal requests.
 - 8) Pending changes.
 - 9) Status of Change Orders.
 3. Minutes: Record the meeting minutes.
 4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
 - 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.

1.8 REQUESTS FOR INTERPRETATION (RFIs)

- A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.
1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
1. Project name.
 2. Date.
 3. Name of Contractor.
 4. Name of Architect.
 5. RFI number, numbered sequentially.
 6. Specification Section number and title and related paragraphs, as appropriate.
 7. Drawing number and detail references, as appropriate.
 8. Field dimensions and conditions, as appropriate.
 9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 10. Contractor's signature.
 11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.
 - a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.
- C. Software-Generated RFIs: Software-generated form with substantially the same content as indicated above.
1. Attachments shall be electronic files in Adobe Acrobat PDF format.
- D. Architect's Action: Architect will review each RFI, determine action required, and return it. Allow seven working days for Architect's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.

- e. Requests for interpretation of Architect's actions on submittals.
 - f. Incomplete RFIs or RFIs with numerous errors.
- 2. Architect's action may include a request for additional information, in which case Architect's time for response will start again.
 - 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 Division 01 Section "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
- 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 seven days if Contractor disagrees with response.
- F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number.
- 1. Project name.
 - 2. Name and address of Contractor.
 - 3. Name and address of Architect.
 - 4. RFI number including RFIs that were dropped and not submitted.
 - 5. RFI description.
 - 6. Date the RFI was submitted.
 - 7. Date Architect's response was received.
 - 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
 - 9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

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. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Preliminary Construction Schedule.
 - 2. Submittals Schedule.
 - 3. Field condition reports.
 - 4. Special reports.
- B. Related Sections include the following:
 - 1. Division 01 Section "Payment Procedures" for submitting the Schedule of Values.
 - 2. Division 01 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
 - 3. Division 01 Section "Submittal Procedures" for submitting schedules and reports.
 - 4. Division 01 Section "Quality Requirements" for submitting a schedule of tests and inspections.

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 activities are activities on the critical path. They 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 the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum, unless otherwise approved by Architect.

- 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 when activities can be performed and the critical path of Project.
- 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.
- F. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
 - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- G. Fragment: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.
- H. Major Area: A story of construction, a separate building, or a similar significant construction element.
- I. Milestone: A key or critical point in time for reference or measurement.
- J. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.
- K. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.4 SUBMITTALS

- A. Qualification Data: For scheduling consultant.
- B. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format:
 - 1. Scheduled date for first submittal.
 - 2. Specification Section number and title.
 - 3. Submittal category (action or informational).
 - 4. Name of subcontractor.
 - 5. Description of the Work covered.
 - 6. Scheduled date for Architect's final release or approval.

- C. Preliminary Construction Schedule: Submit two paque copies.
 - 1. Approval of cost-loaded preliminary construction schedule will not constitute approval of Schedule of Values for cost-loaded activities.
- D. Field Condition Reports: Submit two copies at time of discovery of differing conditions.
- E. Special Reports: Submit two copies at time of unusual event.

1.5 QUALITY ASSURANCE

- A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of Architect's request.

1.6 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from parties involved.
 - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
 - 1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
 - 2. Initial Submittal: Submit concurrently with preliminary bar-chart schedule. Include submittals required during the first 60 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.

- a. At Contractor's option, show submittals on the Preliminary Construction Schedule, instead of tabulating them separately.

2.2 PRELIMINARY CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule within seven days of date established for commencement of the Work.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 60 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within 30 days of date established for commencement of the Work. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
 1. For construction activities that require 3 months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.4 REPORTS

- A. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for interpretation. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.5 SPECIAL REPORTS

- A. General: Submit special reports directly to Owner within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. 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 monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 - 3. As the Work progresses, indicate Actual 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.
 - 1. Post copies in Project meeting rooms and temporary field offices.
 - 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

SECTION 013233 - PHOTOGRAPHIC 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 the following:
 - 1. Preconstruction photographs.
 - 2. Periodic construction photographs.
 - 3. Final completion construction photographs.
- B. Related Requirements:
 - 1. Section 013300 "Submittal Procedures" for submitting photographic documentation.
 - 2. Section 017700 "Closeout Procedures" for submitting photographic documentation as project record documents at Project closeout.
 - 3. Section 017900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.
 - 4. Section 024119 "Selective Structure Demolition" for photographic documentation before selective demolition operations commence.

1.3 UNIT PRICES

- A. Basis for Bids: Base number of construction photographs on average of 20 photographs per building per week over the duration of Project.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For photographer.
- B. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.

1.5 QUALITY ASSURANCE

- A. Photographer Qualifications: An individual who has been regularly engaged as a professional photographer of construction projects for not less than three years. (Site Supervisor)

1.6 USAGE RIGHTS

- A. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

PART 2 - PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in JPG format, produced by a digital camera.

PART 3 - EXECUTION

END OF SECTION 013233

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. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Sections include the following:
 - 1. Division 01 Section "Payment Procedures" for submitting Applications for Payment and the Schedule of Values.
 - 2. Division 01 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes and for submitting Coordination Drawings.
 - 3. Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
 - 4. Division 01 Section "Quality Requirements" for submitting test and inspection reports and for mockup requirements.
 - 5. Division 01 Section "Closeout Procedures" for submitting warranties.
 - 6. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 7. Division 01 Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.
 - 8. Divisions 02 through 49 Sections for specific requirements for submittals in those Sections.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Architect's responsive action.

1.4 SUBMITTAL PROCEDURES

- A. 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. 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.
- B. Submittals Schedule: Comply with requirements in Division 01 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.
- C. Processing Time: Allow enough 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 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 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 21 days for initial review of each submittal.
- D. Identification: Place a permanent label or title block on each submittal 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 inches (150 by 200 mm) on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
 3. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Submittal number or other unique identifier, including revision identifier.
 - 1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).

- i. Number and title of appropriate Specification Section.
 - j. Drawing number and detail references, as appropriate.
 - k. Location(s) where product is to be installed, as appropriate.
 - E. Deviations: Encircle or otherwise specifically identify deviations from the Contract Documents on submittals.
 - F. Additional 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.
 1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.
 2. Additional copies submitted for maintenance manuals will not be marked with action taken and will be returned.
 - G. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return submittals, without review, received from sources other than Contractor.
 1. Transmittal Form: Use AIA Document G810.
 2. 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 label 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.
 - 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.
- 1.5 CONTRACTOR'S USE OF ARCHITECT'S CAD FILES
- A. General: At Contractor's written request, copies of Architect's CAD files will be provided to Contractor for Contractor's use in connection with Project.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
1. Submit electronic submittals directly to extranet specifically established for Project.
- 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 printed 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 product specifications.
 - b. Manufacturer's installation instructions.
 - c. Standard color charts.
 - d. Compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 4. Submit Product Data before or concurrent with Samples.
 5. Number of Copies: Submit three copies of Product Data, unless otherwise indicated. Architect will return two copies. Mark up and retain one returned copy as a Project Record Document.
- 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 of Architect's CAD Drawings are otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Dimensions.
 - b. Fabrication and installation drawings.
 - c. Design calculations.
 - d. Compliance with specified standards.
 - e. Relationship to adjoining construction clearly indicated.
 - f. Seal and signature of professional engineer if specified.
 - g. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
 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 (215 by 280 mm) but no larger than 30 by 40 inches (750 by 1000 mm).
 3. Number of Copies: Submit three opaque copies of each submittal, unless copies are required for operation and maintenance manuals. Submit five copies where copies are required for operation and maintenance manuals. Architect will retain two copies; remainder will be returned. Mark up and retain one returned copy as a Project Record Drawing.

- 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 appropriate Specification Section.
 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
 5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a Project Record Sample.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

- E. Application for Payment: Comply with requirements specified in Division 01 Section "Payment Procedures."
- F. Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. 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. 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. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken.
- C. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- D. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300

SECTION 014200 - REFERENCES

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 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the name of the entities indicated in Thomson Gale's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. See Division 1 Section "Execution Requirements" for progress cleaning requirements.
- C. See Divisions 2 through 28 Sections for temporary heat, ventilation, and humidity requirements for products in those Sections.

1.2 DEFINITIONS

- A. Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures.

1.3 USE CHARGES

- A. General: Cost or use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.
- B. Water Service: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 SUBMITTALS

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

1.5 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Installer of each permanent service shall 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.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Lumber and Plywood: Comply with requirements in Division 6 Section "Miscellaneous Carpentry."
- B. Gypsum Board: Minimum 1/2 inch thick by 48 inches wide by maximum available lengths; regular-type panels with tapered edges. Comply with ASTM C 36/C 36M.
- C. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

2.2 TEMPORARY FACILITIES

- A. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 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.
- 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.

3.2 TEMPORARY UTILITY INSTALLATION

- A. Water Service: Use of Owner's existing water service 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.
 - 1. Where installations below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize water damage. Drain accumulated water promptly from pans.
- B. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- C. Electric Power Service: Use of Owner's existing electric power service will be permitted, as long as equipment is maintained in a condition acceptable to Owner.
- D. 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.

3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
 - 1. Provide incombustible construction for offices, shops, and sheds located within construction area or within 30 feet of building lines. Comply with NFPA 241.
 - 2. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Project Identification and Temporary Signs: Provide Project identification and other signs. Install signs where indicated to inform public and individuals seeking entrance to Project. Unauthorized signs are not permitted.
 - 1. Provide temporary, directional signs for construction personnel and visitors.
 - 2. Maintain and touchup signs so they are legible at all times.
- C. 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 Division 1 Section "Execution Requirements" for progress cleaning requirements. Dumpsters shall be emptied every Friday for the duration of the project.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that

minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

- B. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
- C. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- D. 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 not complete, insulate temporary enclosures.
- E. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner from fumes and noise.
 - 1. Construct dustproof partitions with 2 layers of 3-mil polyethylene sheet on each side. Cover floor with 2 layers of 3-mil polyethylene sheet, extending sheets 18 inches up the sidewalls. Overlap and tape full length of joints.
 - 2. Protect air-handling equipment.
 - 3. Provide walk-off mats at each entrance through temporary partition.
- 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.
 - 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.

3.5 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 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. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 1 Section "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. This 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; product substitutions; and comparable products.
- B. Related Sections include the following:
 - 1. Division 01 Section "References" for applicable industry standards for products specified.
 - 2. Division 01 Section "Closeout Procedures" for submitting warranties for Contract closeout.
 - 3. Divisions 02 through 07 Sections for specific requirements for warranties on products and installations specified to be warranted.

1.3 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 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, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1.4 SUBMITTALS

- A. Product List: Submit a list, in tabular form, showing specified products. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.
1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
 2. Form: Tabulate information for each product under the following column headings:
 - a. Specification Section number and title.
 - b. Proprietary name, model number, and similar designations.
 - c. Manufacturer's name and address.
 - d. Supplier's name and address.
 - e. Installer's name and address.
 - f. Projected delivery date or time span of delivery period.
 - g. Identification of items that require early submittal approval for scheduled delivery date.
 3. Initial Submittal: Within 30 days after date of commencement of the Work, submit 3 copies of initial product list. Include a written explanation for omissions of data and for variations from Contract requirements.
 - a. At Contractor's option, initial submittal may be limited to product selections and designations that must be established early in Contract period.
 4. Completed List: Within 60 days after date of commencement of the Work, submit 3 copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.
 5. Architect's Action: Architect will respond in writing to Contractor within 15 days of receipt of completed product list. Architect's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Architect's response, or lack of response, does not constitute a waiver of requirement to comply with the Contract Documents.
- B. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
1. Substitution Request Form: Use CSI Form 13.1A.
 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified material or product cannot be provided.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as

- performance, weight, size, durability, visual effect, and specific features and requirements indicated.
- d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
 - i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
 - j. Cost information, including a proposal of change, if any, in the Contract Sum.
 - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
 - l. 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.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within 7 days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
- a. Form of Acceptance: Change Order.
 - b. Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be 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. 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 ensure compliance with the Contract Documents and to ensure 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. Store cementitious products and materials on elevated platforms.
5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.
8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 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: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 2. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.

2. Refer to Divisions 02 through 49 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 01 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that 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. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
 6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
 7. Or Equal: Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "or approved," comply with provisions in Part 2 "Comparable Products" Article to obtain approval for use of an unnamed product.
- B. Product Selection Procedures:
1. Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.
 2. Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.

2.2 PRODUCT SUBSTITUTIONS

- A. Timing: Architect will consider requests for substitution if received within 60 days after commencement of the Work. Requests received after that time may be considered or rejected at discretion of Architect.
- B. 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:

1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
2. Requested substitution does not require extensive revisions to the Contract Documents.
3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
4. Substitution request is fully documented and properly submitted.
5. Requested substitution will not adversely affect Contractor's Construction Schedule.
6. Requested substitution has received necessary approvals of authorities having jurisdiction.
7. Requested substitution is compatible with other portions of the Work.
8. Requested substitution has been coordinated with other portions of the Work.
9. Requested substitution provides specified warranty.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION

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 general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Installation of the Work.
 - 2. Cutting and patching.
 - 3. Progress cleaning.
 - 4. Starting and adjusting.
 - 5. Protection of installed construction.
- B. Related Requirements:
 - 1. 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.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 INFORMATIONAL SUBMITTALS

- A. Cutting and Patching Plan: Submit plan describing procedures at least 5 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.

1.5 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 1. Construction Elements: Do not cut and patch construction elements or components in a manner that could change their load-carrying capacity, which results in reducing their capacity to perform as intended, or that result in increased maintenance or decreased operational life or safety. Construction elements include but are not limited to the following:
 - a. Water, moisture, or vapor barriers.
 - b. Membranes and flashings.
 - c. Insulation.
 - d. Sprayed fire-resistive material.
 - e. Equipment supports.
 - f. Piping, ductwork, vessels, and equipment.
 - g. Roof Deck.
 2. 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. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to quality and performance of 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.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of utilities and construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of utilities and other construction affecting the Work.
- 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 roof deck, structure and walls for suitable conditions where products and systems are to be installed.
 - 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - 1. Description of the Work.
 - 2. List of unacceptable installation tolerances.
 - 3. Recommended corrections.
- D. If deck surface is unsuitable for accommodating project scope or if structural integrity of deck is suspect, immediately notify Architect and Structural Engineer. Do not proceed with installation until directed by Architect.

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 caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.4 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching with Owner and Architect.
- F. 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. Proceed with patching after construction operations requiring cutting are complete.
- G. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. 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.
- H. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.5 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- F. 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 015000 "Temporary Facilities and Controls." Dumpsters shall be emptied every Friday during the course of the project.
- G. 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.
- H. 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.

- I. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.6 STARTING AND ADJUSTING

- A. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

SECTION 017329 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor, Subcontractors, and/or suppliers providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SUMMARY

- A. This Section includes procedural requirements for cutting and patching.
- B. Related Sections include the following:
 - 1. Divisions 02 through 33 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
 - 2. Division 07 Section "Penetration Firestopping" for patching fire-rated construction.

1.3 DEFINITIONS

- A. Cutting: Penetration of in-place construction necessary to permit installation or performance of other Work, including the removal of debris.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
 - 1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
 - 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
 - 3. Products: List products to be used and firms or entities that will perform the Work.
 - 4. Dates: Indicate when cutting and patching will be performed.
 - 5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.

6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
7. Architect's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.5 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio. Structural elements include, but are not limited to the following:
 1. Concrete foundation construction.
 2. Bearing and retaining walls.
 3. Lintels.
 4. Structural decking.
 5. Miscellaneous structural metals.
 6. Interior and/or exterior load bearing masonry wall construction.
- B. 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. Operating elements include the following:
 1. Primary operational systems and equipment.
 2. Air or smoke barriers.
 3. Fire-suppression systems.
 4. Mechanical systems piping and ducts.
 5. Control systems.
 6. Communication systems.
 7. Electrical wiring systems.
 8. CCTV Systems
 9. Security Systems
- C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Miscellaneous elements include the following:
 1. Water, moisture, or vapor barriers.
 2. Membranes and flashings.
 3. Piping, ductwork, vessels, and equipment.
 4. Noise- and vibration-control elements and systems.
 5. Roofing systems.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

- E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials 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 match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect 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.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
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. 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 as small as possible, neatly to 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 Division 2 Sections where required by cutting and patching operations.
 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 6. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - 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, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang 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.
- D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 017329

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. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Warranties.
 - 3. Final cleaning.
- B. Related Sections include the following:
 - 1. Division 01 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
 - 2. Division 01 Section "Execution" for progress cleaning of Project site.
 - 3. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 4. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 5. Divisions 02 through 49 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 3. Prepare and submit Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
 - 4. Complete startup testing of systems.
 - 5. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.

6. Complete final cleaning requirements, including touchup painting.
7. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment and Certified Payroll according to Division 01 Section "Payment Procedures."
2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit three copies 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.

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.

1.6 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) 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.
- 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: Provide 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 portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. 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. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 - h. Replace parts subject to unusual operating conditions.
 - i. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - j. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - k. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - l. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 017700

SECTION 017001 - HAZARDOUS MATERIALS CONTRACT CLOSEOUT

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.
- B. Related Sections:
 - 1. Section 011001: Hazardous Materials General Conditions
 - 2. Section 011600: Hazardous Materials Scheduling and Phasing
 - 3. Section 012200: Hazardous Materials Unit Prices
 - 4. Section 020750: Selective Demolition for Hazardous Materials Abatement
 - 5. Section 020800: Asbestos Abatement
 - 6. Section 020820: Universal Waste Reclamation
 - 7. Section 020900: Lead Paint Awareness

1.2 FINAL CLEANING

- A. Unless otherwise specified under Sections of this Specification, the Hazardous Materials Abatement Contractor (HMAC) shall perform final cleaning operations as herein specified prior to final inspection.
- B. Maintain the project site free from accumulations of waste, debris and rubbish caused by operations. At the completion of the work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces; leave the project clean and ready for work of other trades.
- C. Cleaning shall include all surfaces, interior and exterior, in which the HMAC has had access.
- D. Use only those materials that will not create hazards to health or property.

1.3 ABATEMENT CLOSEOUT DOCUMENTS

- A. Submit to the Owner/Consultant, final completed hard copies, via mail, all asbestos Waste Shipment Records (WSR) signed by all transporters and the designated disposal site owner/operator. WSRs shall be submitted to the Owner's Consultant within thirty-five (35) calendar days from shipment of waste from Site.
- B. Submit to the Owner/Consultant, final completed hard copies, via mail, Certificates of Recycling of all universal waste items, signed by all transporters and the designated disposal site owner/operator. Manifests shall be submitted to Owner's Consultant within thirty-five (35) calendar days from shipment of waste from Site.
- C. Refer to each hazardous materials abatement section for specific post project submittal requirements.

D. Final payment will be withheld until receipt of all the above documentations to Owner's/Consultant's satisfaction.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

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. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Maintenance manuals for the care and maintenance of products, materials, finishes, and systems and equipment.
- B. Related Sections include the following:
 - 1. Division 01 Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
 - 2. Division 01 Section "Closeout Procedures" for submitting operation and maintenance manuals.
 - 3. Divisions 02 through 49 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 SUBMITTALS

- A. Final Submittal: Submit one copy of each manual in final form at least 15 days before final inspection. Architect will return copy with comments within 15 days after final inspection.
 - 1. Correct or modify each manual to comply with Architect's comments. Submit 3 copies of each corrected manual within 15 days of receipt of Architect's comments.

1.5 COORDINATION

- A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

PART 2 - PRODUCTS

2.1 MANUALS, GENERAL

- 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: Enclose title page in transparent plastic sleeve. 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, address, and telephone number of Contractor.
 - 6. Name and address of Architect.
 - 7. 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.
 - 1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) 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. Indicate volume number for multiple-volume sets.
2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. 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 diskettes for computerized electronic equipment.
4. Supplementary Text: Prepared on 8-1/2-by-11-inch (215-by-280-mm) 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.

2.2 PRODUCT MAINTENANCE MANUAL

- 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.
- C. Product Information: Include the following, as applicable:
 1. Product name and model number.
 2. Manufacturer's name.
 3. Color, pattern, and texture.
 4. Material and chemical composition.
 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 1. Inspection procedures.
 2. Types of cleaning agents to be used and methods of cleaning.
 3. List of cleaning agents and methods of cleaning detrimental to product.
 4. Schedule for routine cleaning and maintenance.
 5. Repair instructions.

- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

2.3 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
 - 1. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
 - 1. Test and inspection instructions.
 - 2. Troubleshooting guide.
 - 3. Precautions against improper maintenance.
 - 4. Aligning, adjusting, and checking instructions.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
 - 1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 - 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

- G. 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. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
 - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 - 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- C. 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.
- D. 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 Division 01 Section "Project Record Documents."
- E. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

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. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record Product Data.
- B. Related Sections include the following:
 - 1. Division 01 Section "Closeout Procedures" for general closeout procedures.
 - 2. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 3. Divisions 02 through 49 Sections for specific requirements for Project Record Documents of the Work in those Sections.

1.3 SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set of marked-up Record Prints.
- B. Record Product Data: Submit one copy of each Product Data submittal.
 - 1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in manual instead of submittal as Record Product Data.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.

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 prepare the 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 understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 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. Locations and depths of underground utilities.
 - d. Revisions to routing of piping and conduits.
 - e. Revisions to electrical circuitry.
 - f. Actual equipment locations.
 - g. Locations of concealed internal utilities.
 - h. Field records for variable and concealed conditions.
 3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
 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.
- B. Record Drawings: Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Prints with Architect.
- C. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing Record Drawings where Architect determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.
1. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.
- D. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.

2. Record CAD Drawings: Organize CAD information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each CAD file.
3. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect.
 - e. Name of Contractor.

2.2 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. Note related Change Orders and Record Drawings where applicable.

2.3 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

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 modifications to Project Record Documents as they occur; do not wait until the 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

SECTION 020750 - SELECTIVE DEMOLITION FOR HAZARDOUS MATERIALS ABATEMENT

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.
- B. Related Sections:
 - 1. Section 011001: Hazardous Materials General Conditions
 - 2. Section 010600: Hazardous Materials Scheduling and Phasing
 - 3. Section 012200: Hazardous Materials Unit Prices
 - 4. Section 017701: Hazardous Materials Contract Closeout
 - 5. Section 020800: Asbestos Abatement
 - 6. Section 020820: Universal Waste Reclamation
 - 7. Section 020900: Lead Paint Awareness

1.2 SUMMARY

- A. The HMAc shall be responsible for making all disconnects, cutting and capping to all mechanical and electrical systems in order to perform hazardous material removal activities. The HMAc shall obtain required permits to accomplish this work at no additional cost to the Owner.
- B. The HMAc shall be responsible for the selective demolition of all fixtures, acoustical ceiling systems, mechanical equipment, electrical equipment, fixtures, and miscellaneous items necessary to perform asbestos removal activities.
- C. The suspended acoustical ceiling tiles throughout portions of the building have been confirmed to contain asbestos. The disturbance or displacement of any asbestos-containing ceiling tile shall be performed within a negative pressure enclosure as defined in Section 020800 Asbestos Abatement. Areas of asbestos-containing ceiling tiles within the building are identified on the Hazardous Materials Abatement Plan HM-1.
- D. Coordinate all selective demolition work with the Owner and Owners' Consultant.

1.3 PROJECT CONDITIONS

- A. Occupancy:
 - 1. Areas of the building in which selective demolition will occur will be unoccupied during work.
 - 2. No students or children under the age of 18 will be present within the school building during this work.

B. Existing Conditions:

1. After the project has begun, the HMAc is responsible for the condition of the structures to be selectively demolished and surfaces to remain.
 2. Unforeseen Conditions: Should unforeseen conditions be encountered that affect design or function of project, investigate and fully submit an accurate, detailed, written report to the office of the Architect/Consultant. While awaiting a response, reschedule operations if necessary to avoid delay of overall project.
- C. Work under this project may be performed in phases to accommodate Owner's/Architect's requirements and remaining construction phases. Coordinate abatement schedule and operations with the Owner/Architect/Consultant and other trades.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and sealed.
- B. Insofar as is practicable, arrange operations to reveal unknown or concealed conditions for examination and verification before removal or demolition.
- C. Verify actual conditions to determine, in advance, whether removal or demolition of any element will result in structural deficiency, overloading, failure, or unplanned collapse.
 1. Demolish and remove connections to all electrical, gas and plumbing fixtures required to remove asbestos-containing materials.
 2. Demolish all building materials as required to access asbestos containing materials for abatement. Selective demolition that impacts asbestos-containing materials shall be performed with engineering controls in place.

3.2 PREPARATION

- A. Traffic: Do not obstruct walks or public ways without the written permission of governing authorities and of the Owner. Where routes are permitted to be closed, provide alternate routes if required.
- B. Protection:
 1. Provide for the protection of persons passing around or through the area of demolition.
 2. Perform demolition so as to prevent damage to adjacent improvements and facilities to remain.
 3. Protect walls, floors, and other new or existing work from damage during demolition operations and abatement work.

3.3 POLLUTION CONTROLS

- A. Control as much as practicable the spread of dust and dirt.
- B. Observe environmental regulations.
- C. Do not allow water usage that results in freezing or flooding.
- D. Do not allow adjacent improvements to remain to become soiled by demolition operations.

3.4 DEMOLITION - GENERAL

- A. Remove: Items indicated to be removed shall be removed by the HMAC.
- B. Existing to Remain: Construction or items indicated to remain shall be protected against damage during demolition operations. Where practical, and with the Owner's permission, the HMAC may elect to remove items to a suitable storage location during demolition and then properly clean and reinstall the items.
- C. Perform work in a systematic manner.
- D. Demolish and remove existing structures only to the extent required, as indicated in the Contract Documents.
- E. Perform selective demolition using methods that are least likely to damage work to remain and which will provide proper surfaces for patching.
- F. Remove debris daily.
- G. Use any methods permitted by governing regulations and the requirements of the Contract Documents.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. Promptly dispose of materials resulting from demolition operations. Non-contaminated material may be disposed of as construction waste. Do not allow materials to accumulate on site.
- B. The HMAC shall become familiar with the various waste streams that will be generated during this project and shall manage them in accordance with the requirements of the Specifications.
- C. All rubbish and waste material from the Work shall be neatly stacked or kept in suitable containers and removed from the premises daily. The premises shall be kept clean and in an orderly condition at all times to the satisfaction of the Owner and the Consultant.
- D. Transport materials resulting from demolition operations and legally dispose of off-site.
- E. Off-site disposal location shall not be within one-half mile of any portion of the project site or within sight of the project site.

- F. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
- G. All disposal containers, receptacles, dumpsters shall be properly labeled and sealed from the onset of waste accumulation. Exterior waste containers shall be locked.

3.6 CLEANING

- A. Throughout the abatement and remediation period, the HMAC shall maintain the building and Site free of rubbish, debris, surplus materials, and other items not required for the Work.
- B. Remove such material from the site daily to prevent accumulations. Remove all construction debris from work areas, and remove all hazardous waste and asbestos waste as required by the most current federal, state, and local regulations and the requirements of the specifications.

END OF SECTION

SECTION 02 08 00 - ASBESTOS ABATEMENT

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.
- B. Related Sections:
 - 1. Section 011001: Hazardous Materials General Conditions
 - 2. Section 011600: Hazardous Materials Scheduling and Phasing
 - 3. Section 012200: Hazardous Materials Unit Prices
 - 4. Section 017701: Hazardous Materials Contract Closeout
 - 5. Section 020750: Selective Demolition for Hazardous Materials Abatement
 - 6. Section 020820: Universal Waste Reclamation
 - 7. Section 020900: Lead Paint Awareness

1.2 GENERAL PROVISIONS

- A. The Gilead Hill School located at 530 Gilead Street in Hebron, Connecticut will undergo a code violations project (the Project).
- B. Asbestos containing material (ACM) testing has identified building materials in the 1968 wing of the building which will be impacted by the Project. The work covered in this section includes the minimum procedures that shall be employed during the abatement of the ACM.
- C. Refer to other Sections of these Specifications to determine the type and extent of work therein affecting the work of this Section, whether or not such work is specifically mentioned herein.
- D. Jason Eberhard of Eagle Environmental, Inc. is the designer of this Specification. Mr. Eberhard is a State of Connecticut Department of Public Health (CTDPH) Licensed Asbestos Project Designer (License #000160).
- E. The Base Bid asbestos abatement work of this Project is listed on the Asbestos Containing Materials Scope of Work (Table I below) and on the Hazardous Building Materials Abatement Plan HM-1.

1.3 PROJECT DESCRIPTION

- A. The work to be performed includes but is not limited to the proper removal, handling, and disposal of all ACM that will be impacted by the Project. Detailed descriptions of materials and locations of ACM scheduled for removal are shown on Table I below and on the Hazardous Building Materials Abatement Plan HM-1.
- B. The Base Bid asbestos abatement work shall include but not be limited to the ACM identified in the following Table 1 - Table of ACM. The Table provides information on the magnitude of the Project. It is the sole responsibility of the Hazardous Materials Abatement Contractor (HMAC) to visit the site, review the Contract Documents and determine the

quantities of ACM to be removed when developing their bid. Locations and estimated quantities of specific items noted in paragraph A above include:

TABLE I – BASE BID - TABLE OF ACM

LOCATION(S)	MATERIAL	ESTIMATED QUANTITY
Rooms H-2, 1-13, 1-15,1-16, 1-20, 1-21, 1-22, 1-23, 1-26, 1-27, 1-28, 1-29, 1-41, 1-42, 1-43, 1-44, 1-45, 1-47	Acoustical ceiling tiles	~12,330 SF
Room 1-23	Mudded pipe fitting insulation	1 EA

- C. The intent of the Project is to remove only the identified ACM that will be impacted by the Project. Not all ACM identified within the building will be removed under the project Scope of Work.
- D. Work under this Project may be performed in phases to accommodate Owner's/Architect's requirements and construction phases. Coordinate abatement schedule and operations with the Owner/Architect/Owner's Consultant and other trades to include, if any, remobilization fees to support the phasing.
- E. The HMAc shall determine the quantities of asbestos-containing materials requiring removal prior to submission of bid. Any discrepancies must be submitted in writing in RFI format to the Owner and Architect for interpretation prior to submission of bid. The quantities provided above are estimates only.
- F. The HMAc shall be responsible for the removal of light fixtures, suspended ceiling systems, and miscellaneous items to facilitate asbestos removal. Refer to Section 020750 Selective Demolition for Hazardous Materials Abatement for additional requirements.
- G. The suspended acoustical ceiling tiles in some areas of the building have been confirmed to contain asbestos. The disturbance or displacement of any asbestos-containing ceiling tile shall be performed within a negative pressure enclosure as defined in this Section. Areas of asbestos-containing ceiling tiles within the building are identified on the Hazardous Materials Abatement Plan HM-1. The HMAc shall be responsible for the removal of all asbestos-containing acoustical ceiling tiles to support the Project.
- H. The metal grid system associated with the suspended ceiling tiles are scheduled for demolition. The HMAc shall decontaminate the grid system and dispose of as non-regulated construction waste or shall dispose of the grid systems as regulated asbestos waste.
- I. The metal light fixtures associated with the suspended ceilings are scheduled for demolition. The HMAc shall decontaminate the light fixtures and dispose of as non-regulated construction waste or shall dispose of the fixtures as regulated asbestos waste.
- J. Spray adhesives shall not be permitted on surfaces scheduled to remain including floors, woodwork, window components and walls. The HMAc shall protect all surfaces from damage during application of isolation barriers, tape and polyethylene sheeting.
- K. The HMAc shall remove the identified mudded pipe fitting insulation within the existing negative pressure enclosure as part of the Base Bid Scope of Work for this asbestos abatement project.

- L. The HMAC is directed to review Section 020820 Universal waste reclamation and 020900 Lead Paint Awareness for additional requirements affecting the work of this Section.
- M. The facility meets the definition of a school under the USEPA Asbestos Hazard Emergency Response Act (AHERA) 40 CFR 763 Subpart E and the Asbestos-Containing Materials in Schools Rule 19a-333-1 to Section 19a-333-13 of the Regulations of Connecticut State Agencies. Asbestos abatement may not be performed while children under the age of eighteen (18) are within the school building without prior approval from the State of Connecticut Department of Public Health.
- N. The intent of the Project is for abatement work to be performed during regular hours (7:00 pm-5:00 pm) when the school will be vacant and no students or children under eighteen (18) years of age will be present in the building.

1.4 QUALITY ASSURANCE

- A. The HMAC shall be licensed by the State of Connecticut Department of Public Health (DPH) to perform asbestos abatement.
- B. The Asbestos Abatement Supervisor(s) and Asbestos Abatement Workers shall be accredited in accordance with EPA regulation 40 CFR Part 763, subpart E, Appendix C; and shall be licensed by the State of Connecticut Department of Public Health.

1.5 APPLICABLE CODES

- A. The HMAC shall be solely responsible for conducting this Project and supervising all work in a manner that will be in conformance with all federal, state and local regulations and guidelines pertaining to asbestos abatement. Specifically, the HMAC shall comply with the requirements of the following:
 - 1. USEPA AHERA Regulation (40 CFR 763 Final Rule and Notice);
 - 2. USEPA NESHAP Regulations (40 CFR 61, Subpart M);
 - 3. OSHA Asbestos Regulations (29 CFR 1910.1001 and 1926.1101);
 - 4. Connecticut DEEP Regulations (Section 22a-209-8 (I) and Section 22a-220 of the Connecticut General Statutes);
 - 5. Connecticut DPH Standards for Asbestos Abatement Sections 19a-332a-1 to 19a-332a-16;
 - 6. Connecticut DPH Asbestos-Containing-Materials in Schools Regulations (19a-333-1 through 19a-333-13);
 - 7. Connecticut DPH Licensure and Training Requirements Section 20-440-1 to Section 20-440-9.
 - 8. Connecticut Basic Building Code (BOCA);
 - 9. Connecticut Fire Safety Code (NFPA);
 - 10. Local health and safety codes, ordinances or regulations pertaining to asbestos remediation and all national codes and standards including ASTM, ANSI, and Underwriter's Laboratories.

1.6 EXEMPTIONS

- A. This project was designed by a State of Connecticut Department of Public Health licensed Asbestos Abatement Designer. Any deviation from these specifications requires the written approval and authorization from the Designer.

- B. Any deviations from CTDPH Standards for Asbestos Abatement Sections 19a-332a-1 through 19a-332a-16 must be requested in writing and must be approved in writing by CTDPH.

1.7 NOTIFICATIONS, POSTINGS AND PERMITS

- A. The HMAC shall make the following notifications and provide the submittals to the following agencies prior to the commencement of removal work. This notification is required ten (10) days (10 calendar days for CTDPH and 10 business days for USEPA) prior to the start of the abatement project:

1. State of Connecticut
Department of Public Health
Indoor Air Program, MS #12 AIR
410 Capitol Avenue
P.O. Box 340308
Hartford, CT 06134-0308
2. USEPA New England Headquarters
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912

Note: Effective December 14, 2017, EPA needs to be notified directly for all asbestos abatement projects involving >160 square feet or >260 linear feet or 35 cubic feet of ACM.

- B. The minimum information included in the notification includes:

1. Name and address of building owner/operator
2. Building location
3. Building size, age, and use
4. Amount of friable asbestos
5. Work schedule, including proposed start and completion date
6. Asbestos removal procedures to be used
7. Name and location of disposal site for generated asbestos waste, residue, and debris

- C. Ten day notifications shall be posted for each individual phase of the project.

1.8 WORK SITE SAFETY PLAN

- A. The HMAC shall establish a set of emergency procedures and shall post them in a conspicuous place at the work site. The safety plan should include provisions for the following:

1. Evacuation of injured workers.
2. Emergency and fire exit routes from all work areas.
3. Emergency first aid treatment.
4. Local telephone numbers for emergency services including ambulance, fire, and police.
5. A method to notify workers in the event of a fire or other emergency requiring evacuation of the building.
6. 24 hour site security program.

- B. The HMAC is responsible for training all workers in these procedures.

1.9 ALTERNATIVE WORK PRACTICES (AWP)

- A. No AWP's have been submitted or approved for this project.
- B. Any deviations from these specifications require the written approval and authorization from the Owner and the Owner's Consultant.
- C. Any deviations from CTDPH Standards for Asbestos Abatement Sections 19a-332a-1 through 19a-332a-16 must be requested in writing and must be approved in writing by CTDPH.

1.10 RE-OCCUPANCY CLEARANCE

- A. Re-occupancy air sampling will be required within all interior work areas.
- B. The Owner shall be responsible for payment of the sampling and analysis of initial final air clearance samples only. The HMAc shall be responsible for payment of all costs associated with the collection and analysis of additional final air clearance samples for areas that failed the initial test.
- C. Phase Contrast Microscopy (PCM) air samples will be analyzed by the Owner's Consultant. Transmission Electron Microscopy (TEM) samples will be analyzed by an accredited laboratory on a 24-hour turnaround time. The turnaround time starts once the samples are received at the laboratory.

1.11 CONTROL OVER REMOVAL WORK

- A. All HMAc work procedures shall be monitored by the HMAc's "Competent Person" to ensure that areas outside the designated work locations do not become contaminated. The following controls shall be implemented each working day to help ensure this:
 - 1. Prior to work on any given day, the HMAc's designated "Competent Person" shall evaluate job tasks with respect to safety procedures and requirements specified to prevent contamination of the building or the employees. This includes a visual survey of the work area and the decontamination enclosure systems.
- B. The HMAc shall maintain control of and be responsible for access to all work areas to ensure the following requirements:
 - 1. Nonessential personnel are prohibited from entering the area;
 - 2. All authorized personnel entering the work area shall sign the work area entry log;
 - 3. All authorized personnel entering the work area shall read the "worker protection procedures" which are posted at the entry points to the enclosure system, and shall be equipped with properly fitted respirators and protective clothing;
 - 4. All personnel who are exiting from the decontamination enclosure system shall be properly decontaminated;
 - 5. Asbestos waste that is taken out of the work area must be properly bagged and labeled in accordance with these specifications. The surface of the bags shall be decontaminated. Asbestos waste leaving the enclosure system must be transported off site or immediately placed in locked, posted temporary storage on site, and be removed within 24 hours of the project conclusion.

6. Any material, equipment, or supplies that are brought out of the decontamination enclosure system shall be cleaned and decontaminated by wet cleaning and/or HEPA vacuuming of all surfaces.

1.12 SITE SECURITY

- A. The HMAAC shall be responsible for the security of regulated areas. Post asbestos abatement warning signs at entrances to the work area including the waste load out and worker decontamination chamber. The HMAAC shall have a supervisor monitoring the entrance of the worker decontamination chamber during abatement work.
- B. The supervisor shall maintain a work area access log for each work area. The access log shall document each person that enters the work area, the time entered and the time exited. Copies of the work area access logs shall be provided to the Owner's Consultant during the course of the project.

1.13 PERSONNEL PROTECTION

- A. Prior to commencing work, instruct all workers in all aspects of personnel protection, work procedures, emergency procedures use of equipment including procedures unique to this project.
- B. Respiratory protection shall meet the requirements of OSHA as required in 29 CFR 1910.134, 29 CFR 1926.11, 29 CFR 1926.62 and the requirements of the CTDPH Standards for Asbestos Abatement (19a-332a-1 through 16). A formal respiratory protection program must be implemented in accordance with 29 CFR 1926.1101 and 29 CFR 1910.134. The HMAAC shall conduct exposure assessment air sampling, analysis and reporting to ensure the workers are using appropriate respiratory protection.
- C. The HMAAC shall provide appropriate respiratory protection for each worker and ensure usage during potential asbestos exposure.
- D. The HMAAC shall provide respirators from among those approved as being acceptable for protection by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part II.
- E. The HMAAC shall provide an adequate supply of filter for respirators in use.
- F. Minimum respiratory protection shall be as follows:

Air borne Asbestos Level:

Not in excess of 1 f/cc (10 x PEL)

Not in excess of 5 f/cc (50 x PEL)

Not in excess of 10 f/cc (100 x PEL)

Not in excess of 100 f/cc (1000 x PEL)

Required Respirator:

Half mask air purifying or otherwise as required respirator other than a disposable respirator, equipped with HEPA P 100 filters.

Full facepiece air purifying respirator equipped with HEPA P 100 filters.

Any powered air purifying respirator equipped with HEPA P 100 filters or any supplied air respirator operated in continuous flow mode.

Full facepiece supplied air respirator operated in pressure demand mode.

Greater than 100 f/cc (1000 x PEL)

Full facepiece supplied air respirator operated in pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus.

Notes:

1. Respirators assigned for higher airborne fiber concentrations may be used at lower concentrations.
 2. A high efficiency filter means a filter that is at least 99.97 percent efficient against mono-dispersed particles of 0.3 micrometers in diameter or larger.
 3. In addition to the selection criteria in paragraph 1.15F, the HMAc shall provide a tight-fitting powered air purifying respirator equipped with high efficiency filters or a full facepiece supplied air respirator operated in the pressure demand mode equipped with HEPA egress cartridges or an auxiliary positive pressure self-contained breathing apparatus for all employees within the regulated area where Class I work is being performed for which a negative exposure assessment has not been produced and the exposure assessment indicates the exposure level will not exceed 1 f/cc as an 8-hour time weighted average. A full facepiece supplied air respirator operated in the pressure demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus shall be provided under such conditions if the exposure assessment indicates exposure levels above 1 f/cc as an 8 hour time weighted average.
 4. If compressed air is used for supplied air respirators, this air will meet the requirements for grade D breathing air as described by the Compressed Gas Association commodity Specification G-7.1-1966. The compressor will be equipped with the necessary safety devices and sorbents/filters, and be situated to avoid entry of contaminated air. In addition, the compressor will be equipped with alarms to indicate failure or overheating, and additional alarms for indicating the presence of carbon monoxide. Air line couplings will be incompatible with outlets for other gas system to prevent inadvertent servicing of air line respirators with non-respirable gases.
- G. The HMAc shall provide and require all workers to wear protective clothing in Work Areas where asbestos fiber concentration exceeds permissible limits established by the OSHA or where contamination exists. Protective clothing shall include impervious coveralls with elastic wrists and ankles, head covering, gloves and foot coverings.
- H. The HMAc shall ensure that all authorized persons entering contaminated areas are equipped with proper respirators and protective clothing.

1.14 WORKER PROTECTION PROCEDURES

- A. The HMAc shall monitor airborne asbestos concentrations in the workers' breathing zone to establish conditions and work procedures for maintaining compliance with OSHA Regulations 29 CFR 1910.1001 and 1926.1001.
- B. The HMAc's air sampling professional shall document all air sampling results and provide all air sampling reports as soon as feasible. OSHA air monitoring results shall be posted at a conspicuous location at the job site.
- C. All personnel air sampling shall be conducted in accordance with methods described in OSHA standards 29 CFR 1910.1001 and 1926.1101.

1.15 SUBMITTALS

- A. The HMAc will submit two (2) copies of the following submittals to the Owner's Representative ten (10) calendar days prior to the commencement of removal work:
1. HMAc's construction schedule
 2. Shop drawings showing work area configuration with decontamination facility and negative air exhaust locations
 3. Waste generator label to be used including facility address, Owner's information and name of HMAc
 4. Waste shipment and disposal form to be used with generator information completed
 5. Waste hauling contractor and associated licenses
 6. Asbestos abatement training (initial and current refresher), licenses, medical and respirator fit-test records of each employee who may be on the project site
 7. The qualifications of the hygiene firm that the HMAc proposes to use for this project to analyze HMAc employee OSHA exposure monitoring samples
 8. Copies of all notifications and permits
 9. Copies of the written respirator plan compliant with the most current issue of OSHA 1910.134
 10. Copies of all SDS sheets for materials to be used on site
 11. Work Site Safety Plan
 12. Negative Exposure Assessment, if any
 13. HMAc's State of Connecticut Asbestos Contractor license
 14. State and EPA Asbestos Notifications
- B. If rental equipment will be utilized during abatement activities, the HMAc shall provide written acknowledgement to the rental equipment provider and copy the Owner's Consultant stating that equipment will be used during asbestos removal and will be thoroughly decontaminated prior to being returned.
- C. The HMAc will submit the following to the Consultant during the work:
1. Results of all personal air sampling
 2. Certificate of training (initial and current certification), medical, and fit-test records for new employees to start work (24 hours in advance of work).
 3. HMAc site logs and containment access logs
 4. Revised Notifications, if any.
- D. The following shall be submitted to the Consultant at the completion of work:
1. Completed copies of Waste Shipment Records (WSR).
 2. Remaining personal air sampling results and site logs.

1.16 DEFINITIONS

- A. ABATEMENT - Procedures to control fiber release from asbestos-containing materials; includes removal, encapsulation, and enclosure.
- B. AIRLOCK - A system for permitting ingress and egress while assuring air movement to a contaminated area from an uncontaminated area. Two curtained doorways spaced a minimum of six feet apart can form an airlock.

- C. AIR MONITORING - The process of measuring the fiber concentration of an area or of a person.
- D. AIR SAMPLING PROFESSIONAL – A licensed professional capable of developing air sampling protocols and conducting air monitoring and analysis. This individual should be an industrial hygienist, an environmental scientist, or an engineer with experience in asbestos air monitoring and worker protection equipment and procedures. This individual should have demonstrated proficiency in conducting air sample collection in accordance with 29 CFR 1910.1001 and 1926.1101.
- E. ADEQUATELY WETTED - means sufficiently mixed or coated with water, amended or an aqueous solution; or the use of removal encapsulant to prevent dust emissions.
- F. AMENDED WATER - Water to which a surfactant has been added.
- G. ASBESTOS - The name given to a number of naturally occurring fibrous silicates. This includes the serpentine forms and the amphiboles and includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite, or any of these forms that have been chemically altered.
- H. ASBESTOS ABATEMENT - Means the removal, encapsulation, enclosure, renovation, or repair of asbestos-containing materials except activities that are related to the removal or repair of asbestos cement pipe and are performed by employees of a water company as defined in Section 25-32a of the Connecticut General Statutes.
- I. ASBESTOS ABATEMENT SITE SUPERVISOR - Means any licensed individual who is employed or engaged by an HMAc to supervise an asbestos abatement project.
- J. ASBESTOS ABATEMENT WORKER - Means any employee of an HMAc who engages in asbestos abatement.
- K. ASBESTOS CONSULTANT - Any person who engages in any activity directly involved with asbestos consultation services and who has been issued a certificate by the commissioner and a license by the department.
- L. ASBESTOS CONTAINING MATERIAL (ACM) - A material composed of asbestos of any type and in an amount greater than one percent by weight, either alone or mixed with other fibrous or nonfibrous material.
- M. ASBESTOS CONTRACTOR - Any person or entity engaged in asbestos abatement whose employees actually perform asbestos abatement work.
- N. ASBESTOS CONTROL AREA - An area where asbestos abatement operations are performed which is isolated by physical boundaries to prevent the spread of asbestos dust, fibers, or debris.
- O. ASBESTOS FIBERS - Those particles with a length greater than five (5) microns and a length to diameter ratio of 3: 1 or greater.
- P. ASBESTOS PERMISSIBLE EXPOSURE LIMIT (PEL) - The maximum airborne concentration of asbestos fibers to which an employee is allowed to be exposed. The current level established by OSHA is 0.1 fibers per cubic centimeter of air as an eight (8) hour time weighted average and 1.0 fibers/cc averaged over a sampling period of 30 minutes as an excursion limit. The HMAc is responsible for maintaining work areas in a manner that this standard is not exceeded.

- Q. ASBESTOS PROJECT MONITOR - The licensed asbestos consultant who is certified as a project monitor and who functions as an on-site representative of the facility Owner or other persons by over-seeing the activities of the asbestos abatement contractor.
- R. AUTHORIZED VISITOR - Any person authorized by the Owner to enter the building.
- S. BUILDING OWNER - For this Contract only, the building Owner is Hebron Public Schools.
- T. CLEAN ROOM - An uncontaminated area or room, which is a part of the workers' decontamination enclosure with provisions for storage of workers' street clothes and protective equipment.
- U. CLEARANCE SAMPLING - Final air sampling performed aggressively after the completion of the abatement project in a regulated area. Five (5) air samples collected by the asbestos abatement project monitor inside the work area, and having a fiber concentration of less than 0.010 fibers/cc of air will denote acceptable clearance sampling by Phase Contrast Microscopy. Five air samples collected by the asbestos abatement project monitor having an average asbestos concentration of less than 70 asbestos structures mm/sq. will denote acceptable clearance sampling for Transmission Electron Microscopy.
- V. COMMISSIONER - Means the Commissioner of the Connecticut Department of Health Services or his/her authorized agent.
- W. COMPETENT PERSON - A representative of the HMAC who is capable of identifying an asbestos hazard and who has the authority to take prompt corrective measures to eliminate the hazard during asbestos removal.
- X. CONFINED SPACE - A work zone where access and egress are restricted, a potential for gaseous vapors to accumulate exist, or a potential for low oxygen content exists.
- Y. DECONTAMINATION ENCLOSURE SYSTEM - A series of connected areas, with curtained doorways between any two adjacent areas, for the decontamination of workers and equipment. A decontamination enclosure system always contains at least one airlock and is adjacent and connected to the regulated area, where possible.
- Z. DEPARTMENT - The Department of Public Health.
- AA. EPA - Means the U.S. Environmental Protection Agency.
- BB. ENCAPSULANT - A liquid material that can be applied to asbestos-containing material that controls the possible release of asbestos fibers from the materials by either creating a membrane over the surface (bridging encapsulant) or penetrating the material and binding its components together (penetrating encapsulant).
- CC. ENCAPSULATION - A specified asbestos remediation strategy involving the application of an encapsulant to asbestos containing materials to control the release of asbestos fibers into the air.
- DD. EQUIPMENT DECONTAMINATION ENCLOSURE - That portion of a decontamination enclosure system designed for controlling the transfer of materials and equipment, typically consisting of a washroom and a holding area.
- EE. EQUIPMENT ROOM - A contaminated area or a room, which is part of the workers' decontamination enclosure with, provisions for storage of contaminated clothing and equipment.

- FF. FACILITY - Means any private or public building or structure including but not limited to those used for institutional, residential (including single family homes), commercial or industrial purposes and vessels while ashore or in dry-dock.
- GG. FIXED OBJECT - A unit of equipment or furniture in the work areas which cannot be removed from the work area.
- HH. FRIABLE ASBESTOS MATERIAL - Any material that contains more than 1% asbestos by weight, that can be crumbled, pulverized or reduced to powder by hand pressure.
- II. GLOVE BAG - An impervious plastic bag-like enclosure affixed around asbestos containing material, with glove-like appendages through which materials and tools may be handled.
- JJ. HAZARDOUS MATERIALS ABATEMENT CONTRACTOR (HMAC) - Means the Asbestos Contractor, Lead Based Paint Abatement Contractor and or PCB/DEHP and Mercury Vapor Lighting Removal Contractor.
- KK. HEPA FILTER - A high efficiency particulate air (HEPA) filter in compliance with ANSI Z9.2-1979.
- LL. HEPA VACUUM EQUIPMENT - Vacuum equipment with a HEPA filter system for filtering the effluent air from the unit.
- MM. HOLDING AREA - An air-locked chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area.
- NN. INSPECTOR (ASBESTOS ABATEMENT PROJECT MONITOR)- An individual, retained by the Building Owner, who is a "qualified asbestos abatement project monitor" as defined by the State of Connecticut Department of Public Health, and who will be responsible for monitoring the HMAC during the asbestos abatement project.
- OO. MOVABLE OBJECT - A unit of equipment or furniture in the work area, which can be removed from the work area.
- PP. NEGATIVE AIR FILTRATION EQUIPMENT - A portable local exhaust system equipped with HEPA filtration used to create negative pressure in a regulated area (negative with respect to adjacent unregulated areas) and capable of maintaining a constant, low velocity air flow into regulated areas from adjacent unregulated areas.
- QQ. OWNER'S REPRESENTATIVE -The Asbestos Consultant for the project.
- RR. NESHAPS - National Emissions Standard for Hazardous Air Pollutants regulations enforced by the EPA.
- SS. PLASTICIZE - To cover floors and walls with plastic sheeting as specified herein.
- TT. SEPARATION BARRIER - A rigid barrier sealed with two (2) layers of six (6) mil polyethylene sheeting installed between an occupied area and the asbestos abatement work area.
- UU. SHOWER ROOM - A room between the clean room and the equipment room in the workers' decontamination enclosure with hot/cold running water and suitably arranged for employee showering during decontamination. The shower room is located in an airlock between the contaminated area and the clean area.
- VV. STRIPPING - Removing asbestos materials from any structural member, pipe surface, HVAC, or other equipment.

- WW. WASHROOM - A room between the work area and the holding area in the equipment decontamination enclosure with provisions for storage of contaminated clothing and equipment.
- XX. WET CLEANING - The process of reducing asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning tools, which have been dampened by amended water, and by then disposing of these cleaning items as asbestos contaminated waste.
- YY. WORK AREA - Designated rooms, spaces, or areas of the project in which asbestos abatement actions are occurring and which may become contaminated as a result of such abatement actions. The work area must be totally self-contained by sealing, plasticizing and equipping the area with a decontamination enclosure system.
- ZZ. WORKER DECONTAMINATION ENCLOSURE SYSTEM - That portion of a decontamination enclosure system designated for controlled passage of workers, other personnel, and authorized visitors, typically consisting of a clean room, a shower room, and an equipment room.
- AAA. WORK STOPPAGE CLEANUP PROCEDURE - A process following the issuance of a written stop work order, whereby the HMAc thoroughly cleans and decontaminates the work area, the decontamination enclosure system, and any other areas of the building affected by the removal project, to the satisfaction of the Asbestos Project Monitor.
- BBB. WORK ZONE - The area of the decontamination enclosure system where asbestos is being removed.

1.17 PRECONSTRUCTION CONFERENCE

- A. The HMAc shall be required to attend a preconstruction conference with his/her site supervisor, any subcontractor they employ on site for the purpose of reviewing the contract requirements.

PART 2 - MATERIALS AND EQUIPMENT

2.1 MATERIALS

- A. Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name and product technical description.
- B. Damaged or deteriorating materials shall not be used and shall be removed from the premises. Material that becomes contaminated with asbestos shall be decontaminated or disposed of as asbestos waste.
- C. Polyethylene sheet in a roll size to minimize the frequency of joints shall be delivered to job site with factory label indicating 4 or 6 mil.
- D. Polyethylene disposable bags shall be true six (6) mil with preprinted labels.
- E. Tape shall be capable of sealing joints in adjacent polyethylene sheets and for attachment of polyethylene sheets to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including use of amended water.

- F. Surfactant (wetting agent) - shall consist of fifty (50) percent polyoxyethylene ether and fifty (50) percent polyoxyethylene ester, or equivalent, and shall be mixed with water to provide a concentration of one (1) ounce surfactant to five (5) gallons of water or as directed by manufacturer.
- G. Impermeable containers are to be used to receive and retain any asbestos-containing or contaminated materials until disposal at an acceptable disposal site. (The containers shall be labeled in accordance with OSHA Standard 29 CFR 1926-1101.) Containers must be both air and watertight.
- H. Labels and signs, as required by OSHA Standard 29 CFR 1926.1001 will be used.
- I. Encapsulant shall be bridging or penetrating type which has been found acceptable to Eagle Environmental. Usage shall be in accordance with manufacturer's printed technical data.
- J. Disposal labels shall be preprinted on self-adhesive labels with the generator name, abatement Site and HMAC's name and address. Labels shall not be photocopied and applied with spray adhesive.

2.2 TOOLS AND EQUIPMENT

- A. Provide suitable tools for asbestos removal, encapsulation and enclosure.
- B. The HMAC shall have air monitoring equipment of type and quantity to monitor operations and conduct personnel exposure surveillance per OSHA requirements.
- C. The HMAC shall have available sufficient inventory on site for materials necessary for the job including protective clothing, respirators, filter cartridges, polyethylene sheeting of proper size and thickness, tape, and air filters.
- D. The HMAC shall provide temporary electrical power sources such as generators (when required).
- E. The HMAC shall have available shower stalls and sufficient hose length and a drain system equipped with 5-micron filters.
- F. Exhaust air filtration system units shall contain HEPA filter(s) capable of sufficient air exhaust to create negative pressure of 0.02 inches of water within the enclosure with respect to the outside area. Equipment shall be checked for proper operation by smoke tubes or a differential pressure gauge before the start of each shift and at least twice during the shift. Adequate exhaust air shall be provided for a minimum of four (4) air changes per hour within the enclosure. No air movement system or air filtering equipment shall discharge unfiltered air outside.
- G. Vacuum units, of suitable size and capacities for project, shall have HEPA filter(s) capable of trapping and retaining at least 99.97 percent of all monodispersed particles of 0.3 micrometers in diameter or larger.
- H. The HMAC will have reserve exhaust air filtration system units in order to maintain negative air filtration in the event that a unit malfunctions during use.
- I. The HMAC shall have available and use recording manometers to monitor pressure differential between the work area and occupied areas of the building. A minimum negative pressure differential of 0.02 inches of water column shall be maintained.

- J. The HMAAC shall have available spray equipment capable of mixing a wetting agent with water and capable of generating sufficient pressure and volume and having sufficient hose length to reach all areas with asbestos.
- K. HEPA filtered local exhaust ventilation shall be utilized during the installation of enclosures and supports where asbestos-containing materials may be disturbed.

PART 3 - EXECUTION

3.1 INTERIOR WORK AREA PREPARATION - GENERAL

- A. Provide GFCI devices, temporary power, and temporary lighting installed in compliance with the applicable electrical codes. All temporary installations are to be made by a licensed electrician.
- B. Shut down electrical power, including receptacles and light fixtures. Lock and tag out circuits associated with the electrical components in the work area(s). Under no circumstances during the abatement and ceiling demolition procedures will lighting fixtures be permitted to be energized.
- C. Shut down and/or isolate heating, cooling, and ventilation air systems or zones to prevent contamination and fiber dispersal to other areas of the structure. Lock and tag out circuits associated with heating and cooling units. During the work, vents within the work area shall be sealed with duct tape and polyethylene sheeting.
- D. Seal off all openings, including but not limited to windows, corridors, doorways, skylights, ducts, grills, diffuser, and any other penetration of the work areas, with polyethylene sheeting minimum of six (6) mils thick sealed with duct tape. This includes doorways and corridors which will not be used for passage during work areas and occupied areas. Install 5 micron water filtration socks in all floor drains prior to sealing.
- E. Establish worker decontamination facility, critical barriers and negative air filtration prior to conducting pre-cleaning activities. Pre-clean fixed objects within the work areas, using HEPA vacuum equipment and/or wet cleaning methods as appropriate, and enclose with minimum six (6) mil plastic sheeting sealed with duct tape.
- F. Pre-clean movable objects within the work areas, using HEPA vacuum equipment and wet cleaning methods as appropriate. Do not use methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters.
- G. After HEPA vacuum pre-cleaning, conduct work area preparation in accordance with this Specification section.
- H. Where fixed walls are not used, one layer of six (6) mil polyethylene sheeting will be applied to a rigid framework of wood, metal, or PVC.
- I. Install two (2) layers of four (4) mil polyethylene wall sheeting over all wall surfaces and critical barriers. All overlaps shall be sealed with tape.
- J. Cover all floors in the work area with two layers of six (6)-mil polyethylene sheeting. Extend the polyethylene flooring a minimum of twelve (12) inches up the walls. Ensure that the wall sheeting overlaps the floor sheeting from the top.
- K. Maintain emergency and fire exits from the work area, or establish alternative exits satisfactory to fire officials.

- L. Create pressure differential between work areas and occupied areas by the use of acceptable negative air pressure equipment. The HMAc shall ensure required negative air pressure is obtained throughout the containment and the total volume of air within the work area is changed every fifteen (15) minutes.
- M. Install and maintain a manometer for each negative pressure enclosure where Class I work will be performed.
- N. Post all approaches to each work area with Asbestos Warning signs. Warning signs shall be of size and type that are easily readable and are visible from all approaches to the work areas.

3.2 CONTIGUOUS PERSONNEL DECONTAMINATION SYSTEM

- A. The HMAc shall establish contiguous to each work area, a personnel decontamination system consisting of equipment room, shower room and clean room in series. Access between the contaminated and uncontaminated areas shall be through this decontamination enclosure only. The decontamination system shall be constructed of two layers of six-mil polyethylene sheeting. Pre-fabricated "pop-up" decontamination chambers will not be permitted on this project.
- B. The HMAc shall protect flooring materials under personnel decontamination system from water and physical damage. Repairs to flooring materials damaged during the abatement project shall be performed at the HMAc's expense.
- C. Access between rooms in decontamination system shall be through double flap-curtained openings. Clean room, shower room and equipment room within decontamination system shall be completely sealed ensuring that the sole source of air flow through this area originates from uncontaminated areas outside the work area.
- D. The shower unit shall be equipped with an adequate supply of warm water. A shower filtration pump containing two (2) 5-micron sock filters or the best available technology shall be installed to filter shower water. Filtered shower water shall be discharged into sanitation drains and shall not be discharged into storm drains or onto floor or ground surfaces.
- E. The shower room shall have soap and an adequate supply of drying towels. Provide an adequate number of shower units in accordance with OSHA 29 CFR 1926.1101.
- F. If the decontamination system will be constructed on the exterior of the building, the entire unit shall be constructed of a solid frame and sturdy wall and ceiling system to prevent unauthorized entry and to keep out the weather. The entrance to the decontamination system shall be lockable and vented to allow for adequate make-up air into containment. The unit shall have a change area for the workers to change into street clothes before exiting.

3.3 REMOTE PERSONNEL DECONTAMINATION SYSTEM

- A. The HMAc shall establish a remote personnel decontamination system where contiguous decontamination systems are not feasible. The use of such remote decontamination unit must be indicated in the State Notification. Access between the contaminated and uncontaminated areas shall be through this decontamination enclosure only. The decontamination system shall be constructed of two layers of six-mil polyethylene sheeting. Pre-fabricated "pop-up" decontamination chambers will not be permitted on this project.

- B. The HMAc shall protect flooring materials under personnel decontamination system from water and physical damage. Repairs to flooring materials damaged during the abatement project shall be performed at the HMAc's expense.
- C. Access between rooms in decontamination system shall be through double flap-curtained openings. Clean room, shower room and equipment room within decontamination system shall be completely sealed ensuring that the sole source of air flow through this area originates from uncontaminated areas outside the work area.
- D. The shower unit shall be equipped with an adequate supply of warm water. A shower filtration pump containing two (2) 5-micron sock filters or the best available technology shall be installed to filter shower water. Filtered shower water shall be discharged into sanitation drains and shall not be discharged into storm drains or onto floor or ground surfaces.
- E. The shower room shall have soap and an adequate supply of drying towels. Provide an adequate number of shower units in accordance with OSHA 29 CFR 1926.1101.

3.4 WASTE LOAD OUT SYSTEMS

- A. The HMAc shall establish waste load out systems, attached to the work areas. Waste load out systems shall consist of a minimum of two (2) chambers that are of suitable size for transporting waste and/or equipment out of the work area. Waste load out systems shall be constructed of two layers of six-mil polyethylene sheeting.
- B. The HMAc shall protect flooring materials under waste load out system from water and physical damage. Repairs to flooring materials damaged during the abatement project shall be performed at the HMAc's expense.
- C. Access between rooms in the waste load out system shall be through double flap-curtained openings. The waste load out system shall be used for decontaminating waste containers, bags, bundles, etc. prior to removal from the work area and transporting waste from the work area to the non-work area.
- D. Persons working inside the contaminated work area are not permitted to pass from the work area to the non-work area through the waste load out system. Persons inside the contaminated work area shall not be permitted to enter into the clean area of the waste load out system.
- E. The waste load out system shall remain sealed at all times except during decontamination of waste containers and transport of waste from the work area to the non-work area.

3.5 ASBESTOS REMOVAL PROCEDURE - GENERAL

- A. The HMAc shall have a designated "Competent Person" on the job at all times to ensure establishment of a proper enclosure system and proper work practices throughout the project. At a minimum, the HMAc Competent Person shall perform or supervise the following duties, as applicable:
 - 1. Ensure the integrity of the containment or enclosure.
 - 2. Set up procedures to control entry to and exit from the enclosure.
 - 3. Supervise employee exposure monitoring.
 - 4. Ensure that employees set up, use and remove engineering controls, use work practices and personal protective equipment in compliance with OSHA regulations.

5. Ensure that employees use the worker decontamination facilities and observe decontamination procedures.
- B. Abatement work will not commence until all work area preparation is completed in accordance with this technical specification section.
- C. Spray asbestos materials with amended water using airless spray equipment or apply removal wetting agent to reduce the release of fibers during removal operation.
- D. Spraying of amended water shall be adequate enough to allow the ACM to absorb the water. Actual removal of ACM shall not be allowed until all ACM has become adequately wet.
- E. Do not create any visible emissions during asbestos removal. Ensure all ACM is adequately wet prior to removal.
- F. Fill disposal containers as removal proceeds. Seal filled containers before moving to waste load out system. Wet clean each container thoroughly, double bag, drum or use other approved containerization methods and apply a caution label before moving to holding area.
- G. Remove and containerize all visible accumulations of asbestos-containing and/or asbestos-contaminated debris.
- H. Solidify all liquid waste prior to containerization for disposal.
- I. Sealed disposal containers and all equipment used in the work area shall be included in the cleanup and shall be removed from work areas, via the waste load out system at an appropriate time in the cleaning sequence.
- J. The HMAc shall remove from each containment all abated asbestos containing materials at the end of each work shift.
- K. At any time during asbestos removal, should the competent person suspect contamination of areas outside the work area(s), they shall cause to stop all abatement work until steps to decontaminate these areas and eliminate causes of such contamination are completed. Unprotected individuals shall be prohibited from entering suspected contaminated areas until air sampling and visual inspections certify decontamination.
- L. Upon acceptance of the work area by the Owner's Representative, the HMAc shall apply an even coating of bridging encapsulant with airless spray equipment to all exposed surfaces contained within the work area. Apply encapsulant in accordance with manufacturer's recommendation.

3.6 MINIMUM SPECIFIC ASBESTOS REMOVAL PROCEDURE – ACOUSTICAL CEILING TILES

- A. Minimum specific requirements relative to the removal of asbestos-containing acoustical ceiling tiles are as follows:
 1. Prior to the removal of any acoustical ceiling tiles, the HMAc shall ensure the work area is prepped in accordance with the requirements of Part 3.1 INTERIOR WORK AREA PREPARATION – GENERAL and Part 3.2 CONTIGUOUS PERSONNEL DECONTAMINATION SYSTEM below ceiling grid system.

2. The HMAc shall continuously mist the ceiling system with amended water, removal encapsulant, or detergent solution, so that entire surface is wet. Do not allow wetting agent to puddle or run off to other areas. If removal encapsulant is used, use in strict accordance with the manufacturer's instructions.
 3. In areas where ductwork is present within the work area the work area HEPA vacuum one (1) course of ceiling tiles in each direction from the ductwork. Wet clean and HEPA vacuum the ductwork. Install two (2) layers of six (6) mil fire retardant polyethylene sheeting over duct work. The polyethylene sheeting shall be installed prior to the removal of any other ACM in the work area and shall remain in place following the decontamination of the duct work and until the work area has passed final visual inspection and re-occupancy air sampling.
 4. Following ductwork isolation, the HMAc shall remove limited acoustical ceiling tiles from perimeter of each room prior to removing tiles in center of room. Immediately install additional isolation barriers above ceilings and at walls if breeches are identified during initial ceiling tile removal. HEPA vacuum and wet wipe surfaces prior to installation of isolation barriers.
 5. Prior to removing remaining ceiling tiles, wet top side of ceiling tiles from perimeter with airless sprayer. Remove all remaining ceiling tiles using manual techniques. Continuously mist area where materials are being removed. Wet all debris generated as necessary to keep continuously wet.
 6. Continuously pick up debris and place in labeled disposal bags, lined drums or in nylon mesh bags. Place nylon mesh bags into six (6) mil thick disposal bags with pre-printed OSHA warning labels. Ensure that all waste is placed in six (6) mil disposal bags during waste load out operations.
 7. Following acoustical ceiling tile removal, wet wipe and decontaminate all roof decking, joists, structural steel, wall surfaces, piping, electrical conduit and duct work scheduled to remain.
 8. Metal ceiling grid systems may either be cleaned of all residues, wet wiped and HEPA vacuumed prior to being removed from work area for disposal as construction debris or properly packaged and disposed of as contaminated asbestos waste. The Owner's Consultant shall perform a visual inspection of all metal components to confirm no residual dust or debris prior to being removed from work area as construction debris.
 9. Metal light fixtures shall have all lamps and ballasts removed in accordance with Specification Section 020820 and may either be cleaned of all residues, wet wiped and HEPA vacuumed prior to being removed from work area for disposal as construction debris or properly packaged and disposed of as contaminated asbestos waste. The Owner's Consultant shall perform a visual inspection of all metal components to confirm no residual dust or debris prior to being removed from work area as construction debris.
 10. All liquid wastes shall be solidified once packaged for disposal. No liquid wastes shall be permitted to leave the Site in liquid form.
 11. Remove all waste from the work area in accordance with PART 3.9 WASTE PACKAGING AND REMOVAL PROCEDURES.
- B. Following the removal of all asbestos-containing materials, the HMAc shall final clean the work area until no visible residue is present. The HMAc shall continue to clean the work area at their expense until the no visible residue criteria is achieved.

3.7 MINIMUM SPECIFIC ASBESTOS REMOVAL PROCEDURE – MUDDED PIPE FITTING INSULATION

- A. Thermal system insulation shall include mudded pipe fitting insulation item. Prior to the removal of any thermal system insulation, the HMAc shall ensure the work area is prepped in accordance with the requirements of Part 3.1 INTERIOR WORK AREA PREPARATION – GENERAL and Part 3.2 CONTIGUOUS PERSONNEL DECONTAMINATION SYSTEM.

- B. The HMAc shall be responsible for all selective demolition to access thermal system insulation.
- C. Minimum specific requirements relative to the removal of thermal system insulation are as follows.
 - 1. Thoroughly wet thermal system insulation prior to removal.
 - 2. Remove mudded pipe fitting insulation and place directly into disposal bags. Do not allow to accumulate on floors of the containment.
 - 3. Add amended water to each waste bag to adequately wet insulation. The insulation will require additional water to ensure it is adequately wet. Mudded pipe fitting insulation shall be soft and saturated throughout.
 - 4. Remove residual thermal system insulation from pipe lengths, elbows, etc.
 - 5. Following gross removal activities, final clean all pipe fittings and pipe lengths. Utilize nylon scrub pads to remove all visible residue.
 - 6. Remove waste from area in conformance with Part 3.9 – WASTE PACKAGING AND REMOVAL PROCEDURES.

3.8 FINAL CLEANING AND ENCAPSULATION

- A. Upon completion of gross removal of all ACM specified for removal, the HMAc shall begin final cleaning of the affected work area. The HMAc shall HEPA vacuum and wet wipe all surfaces contained within the work area.
- B. All tools or equipment that are not necessary for final cleaning shall be decontaminated or bagged and removed from the work area enclosure.
- C. The HMAc shall begin final cleaning procedures at the furthest and highest most points from the personnel decontamination unit and move towards the unit. The HMAc shall ensure that all exposed building components and or surfaces are thoroughly HEPA vacuumed and wet wiped.
- D. The HMAc shall HEPA vacuum and wet wipe any component specified to remain inside the work area enclosure.
- E. The HMAc shall thoroughly wet wipe all polyethylene sheeting inside the work area enclosure.
- F. Remove and replace all pre-filters on negative air filtration equipment. Decontaminate all negative air filtration equipment including wheels.
- G. Remove all waste from Equipment Room in Decontamination System. Decontaminate entire personnel decontamination facility. Pump standing water from shower basin through filtration system
- H. Once all surfaces and components within the work area have been thoroughly cleaned, AND THE WORK AREA IS DRY, the HMAc's Competent Person shall perform a visual inspection of all surfaces and components within the work area enclosure. The HMAc's Competent Person shall sign off on the work area stating that all abatement has been completed for that portion of work and that the work area has met the no visible residue criteria.
- I. The HMAc's Competent Person shall then request a final visual inspection to be performed by the Owner's Consultant. The Owner's Consultant shall visually inspect all surfaces and

components in the work area for residual debris and or dust. Work areas must be dry for final visual inspection. Inspections will not be performed in work areas where there is standing water or wet surfaces. Additional cleaning shall be performed at the HMAc's expense if the Owner's Consultant identifies visual debris and/or dust during the visual inspection. Additional cleaning shall be performed until the work area meets the no visible residue/dust criteria.

- J. Upon acceptance of the work area by the Owner's Consultant, the HMAc shall apply an even layer of bridging encapsulant to all surfaces contained within the work area. The Owner's Consultant shall verify the completeness of work area encapsulation.

3.9 WASTE PACKAGING AND REMOVAL PROCEDURE

- A. The HMAc shall strictly adhere to the requirements of this section for ACM waste packaging and transporting waste from the work area enclosure to the disposal dumpster.
- B. Waste disposal bags and drums shall be affixed with pre-printed OSHA warning labels, DOT labels and NESHAP labels.
- C. Each container of ACM waste shall be made adequately wet prior to sealing the container. Bags shall be sealed immediately following additional wetting procedures. Bags of ACM waste shall not be permitted to remain unsealed while in the work area enclosure.
- D. Each bag of ACM waste shall be double-bagged during waste load out procedures. The following waste load out procedure shall be strictly adhered to:
 - 1. Wet wipe inner bag or drum to remove all ACM contamination. Ensure the inner bag is sealed.
 - 2. Transport bag or drum to the equipment room located in the worker decontamination enclosure.
 - 3. One worker, equipped with personal protective equipment, shall be inside the clean room of the worker decontamination enclosure.
 - 4. The worker in the clean room of the decontamination enclosure shall open a six-mil disposal bag and hold it open inside the shower room where the inner bag containing the ACM waste shall be placed.
 - 5. The outer bag shall be sealed with duct tape inside the shower room.
 - 6. The double bagged or drummed waste shall be removed from the decontamination enclosure and waste generator labels shall be immediately affixed to the outer bag or drum.
 - 7. Waste generator labels shall be printed self-adhering labels and shall contain the Owner's name, the site location address, and the HMAc's name.
 - 8. The properly labeled waste shall be transported directly to the lined waste container.
 - 9. The waste container shall be double lined with 6-mil polyethylene sheeting.
 - 10. OSHA warning signs shall be secured to the waste container prior to any loading and unloading operations.
 - 11. The waste container shall be kept locked at all times other than loading and unloading.

3.10 DISPOSAL OF ASBESTOS AND ASBESTOS CONTAMINATED WASTE

- A. All disposal of asbestos containing and or asbestos contaminated material must be in compliance with requirements of the State of Connecticut Department of Energy and Environmental Protection, State of Connecticut Department of Public Health and the USEPA NESHAP regulations.

- B. Materials shall be properly packaged, labeled and disposed of as asbestos.
- C. Disposal approvals shall be obtained from the CTDEEP before commencing asbestos removal if waste will be disposed of in Connecticut.
- D. Waste container storage locations shall be pre-approved by the Owner and Owner's Consultant.
- E. A copy of approved disposal authorization shall be provided to the Owner and Owner's Consultant and any required federal, state or local agencies.
- F. Copies of all landfill receipts will be retained by the Owner's Consultant as part of the project file. The receipts will be signed by the landfill operator on receipt, and the quantity of asbestos debris leaving the job site and arriving at the landfill acknowledged.
- G. All asbestos debris shall be transported in covered, sealed vans, boxes or dumpsters, which are physically isolated from the driver by an airtight barrier. All vehicles must be properly licensed to meet United States Department of Transportation (USDOT) requirements.
- H. Friable ACM waste shall be placed in double lined enclosed waste containers equipped with a lockable hasp. Waste containers shall be posted with OSHA warning signs during loading and unloading.
- I. All liquid waste generated during the work shall be solidified. At no time will liquid wastes be permitted to be stored on site. Liquid waste generated during this project shall be solidified prior to the end of each work shift.
- J. Completed Waste Shipment Records (WSR) signed by the landfill must be returned to the Owner or Owner's Consultant no later than 45 days from the time the waste was transported off-site. Completed waste shipment records that are not received by the Owner within 35 days shall require the HMAC to begin tracking the waste. The HMAC must notify the Owner of intentions on tracking the waste.
- K. The HMAC must take appropriate actions as outlined in 40 CFR Part 61 NESHAP regulations when completed WSR are not forwarded to the Owner or Owner's Consultant within 45 days from the time the waste was transported off-site.

3.11 REOCCUPANCY AIR CLEARANCE MONITORING

- A. After the pre-sealant visual inspection has passed and all surfaces in the abatement area have dried, reoccupancy air clearance monitoring will be performed. The primary and secondary barriers, worker decontamination enclosure, and negative air filtration units shall remain in place. At no time shall tools, ladders, vacuums or waste remain inside the work area enclosure during final air clearance sampling.
- B. Once the work area has dried, the Owner's Consultant shall collect aggressive re-occupancy air clearance samples. Aggressive air monitoring will be used. Selection of the locations of the air samples shall be the responsibility of the Owner's Consultant. Air monitoring volumes shall be sufficient to provide a detection limit of 0.010 f/cc (fiber per cubic centimeter of air) using NIOSH-7400 method by Phase Contrast Microscopy (PCM) or 0.005 s/mm² (structures per square millimeter) using Transmission Electron Microscopy (TEM) method.

- C. Areas that do not comply with the re-occupancy air clearance criteria shall continue to be cleaned by and at the HMAC's expense until the specified re-occupancy air clearance criteria is achieved as evidenced by results of air testing as previously specified.
- D. Laboratories conducting analysis of final air clearance samples shall be approved by the State of Connecticut Department of Health.

3.12 OWNER'S CONSULTANT RESPONSIBILITY

- A. The Owner has retained the services of third party asbestos project monitoring consultant to monitor this project. The Owner's Consultant shall collect and analyze air samples to ascertain the integrity of controls, which protect the building from asbestos contamination. Independently, the HMAC shall monitor air quality within the work area to ascertain the protection of employees and to comply with OSHA regulations.
- B. The Owner's Consultant shall collect and analyze air samples during a minimum of two time periods:
 - 1. Abatement Period: The Asbestos Abatement Project Monitor shall collect samples on a daily basis during the work period. A sufficient number of background samples shall be taken outside of the work area, at the exhaust of the negative pressure filtration equipment, and outside of the building to evaluate the degree of cleanliness or contamination of the building during asbestos removal. Additional samples may be taken inside the work area and decontamination enclosure system, at the discretion of the Asbestos Abatement Project Monitor.
 - a. The Asbestos Abatement Project Monitor shall provide a continual evaluation of the air quality of the building during asbestos abatement, using his/her best professional judgments in respect to the State Department of Public Health guideline of 0.010 f/cc or the background air quality established during the pre-abatement period, whichever is higher.
 - b. If the Asbestos Abatement Project Monitor determines that the building air quality has become contaminated from the project, he/she shall immediately inform the HMAC to cease all removal operations and implement a work stoppage clean up procedure. The HMAC shall conduct a thorough cleanup of areas of the building designated by the Asbestos Abatement Project Monitor. No further asbestos abatement work shall take place until the Asbestos Abatement Project Monitor has determined that the building's air has been decontaminated.
 - c. Abatement air samples shall be collected for a minimum period of ninety minutes at a minimum flow rate of 12 liters per minute, or as required to obtain a volume of 1,000 liters. Samples shall be analyzed by phase contrast microscopy (PCM) using the NIOSH 7400 protocol.
 - 2. Reoccupancy Clearance Period: The Asbestos Abatement Project Monitor shall conduct air sampling following the final cleanup phase of the project, once the "no visible residue" criterion as established by the site supervisor and the Asbestos Abatement Project Monitor has been met.
 - a. Phase Contrast Microscopy (PCM) - For work areas containing less than 260 linear feet or 160 square feet of ACM, post abatement analysis of the samples to determine if reoccupancy clearance standards have been met shall be conducted by PCM. A minimum of five (5) samples shall be collected inside each containment utilizing aggressive methods to comply with State of Connecticut DPH Standard for Asbestos Abatement sections 19a-332a-12, and 19a-332a-13. The project shall be

- considered complete when the results of samples collected in the work area and analyzed by phase contrast microscopy using the most current National Institute for Occupational Safety and Health (NIOSH) method 7400, to show that the concentration of fibers for each of the five samples is less than or equal to a limit of quantification for PCM (0.010 fibers per cubic centimeter of air).
- b. Transmission Electron Microscopy (TEM) - For work areas containing greater than 260 linear feet or 160 square feet of ACM, post abatement analysis of the samples to determine if reoccupancy clearance standards have been met shall be conducted by TEM. A minimum of five (5) samples shall be collected inside containment utilizing aggressive methods to comply with State of Connecticut DPH Standard for Asbestos Abatement sections 19a-332a-12, and 19a-332a-13. An asbestos abatement project shall be considered complete when the average concentration of asbestos fibers of five air samples collected within the work area and analyzed by the TEM method in Appendix A of 40 CFR Part 763 subpart E is less than 70.0 structures per square millimeter (s/mm²) of filter surface or is not statistically significantly different, as determined by the Z-test calculation found in Appendix A of 40 CFR Part 763, subpart E, from the average asbestos concentration of five air samples collected at the same time outside the work area and analyzed in the same manner, and the average asbestos concentration of the three field blanks described in Appendix A of 40 CFR Part 763, subpart E, is below the filter background level, as defined in Appendix A of 40 CFR Part 763 subpart E, of 70 s/mm².
- C. Inspections shall be conducted by the Owner's Consultant throughout the progress of the abatement project. Inspections shall be conducted in order to document the progress of the abatement work as well as the procedures and practices employed by the HMAC. The Asbestos Abatement Project Monitor shall perform the following inspections during the course of abatement activities.
1. Precommencement Inspection: Precommencement inspections shall be performed at the time requested by the HMAC. The Asbestos Abatement Project Monitor shall be informed 24 hours prior to the time the inspection is needed. During the course of the precommencement inspection, the Asbestos Abatement Project Monitor shall inspect the containment. This shall include, but not be limited to, inspection of barrier integrity, the worker decontamination, facility, negative air filtration equipment etc. If during the course of the precommencement inspection, deficiencies are found, the HMAC shall perform the necessary adjustments in order to obtain compliance.
 2. Work Area Inspections: Work area inspections shall be conducted on a daily basis at the discretion of the Asbestos Abatement Project Monitor. During the course of the work area inspections, the Asbestos Abatement Project Monitor shall observe the HMAC removal procedures, verify barrier integrity, monitor negative air filtration devices, assess project progress, and inform the HMAC of specific remedial activities if deficiencies are noted.
 3. Presealant Inspection: Upon the request of the HMAC, The Asbestos Abatement Project Monitor shall conduct a presealant inspection. The presealant inspection shall be conducted after completion of the initial final cleaning procedures, but prior to work area encapsulation. The presealant inspection shall verify that all ACM and residual debris have been removed from the work area. If, during the course of the presealant inspection, the Asbestos Abatement Project Monitor identifies residual dust or debris, the HMAC shall comply with the request of the Asbestos Abatement Project Monitor, in order to render the area is free of visible residue.
 4. Final Visual Inspection: Following receipt of acceptable reoccupancy air monitoring results and concurrent with removal of the work area containment, the Asbestos Abatement Project Monitor shall conduct a final visual inspection. If residual dust or debris is identified during the course of the final inspection, the HMAC shall comply with the request of the Asbestos Abatement Project Monitor, in order to render the area free of visible residue.

END OF SECTION

SECTION 020820 - UNIVERSAL WASTE RECLAMATION

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.
- B. Related Section:
 - 1. Section 011001: Hazardous Materials General Conditions
 - 2. Section 011600: Hazardous Materials Scheduling and Phasing
 - 3. Section 012200: Hazardous Materials Unit Prices
 - 4. Section 017701: Hazardous Materials Contract Closeout
 - 5. Section 020750: Selective Demolition for Hazardous Materials Abatement
 - 6. Section 020800: Asbestos Abatement
 - 7. Section 020900: Lead Paint Awareness

1.2 GENERAL PROVISIONS

- A. The Gilead Hill School located at 530 Gilead Street in Hebron, Connecticut will undergo a code violations project (the Project). The reclamation of universal waste products as defined by the State of Connecticut Department of Energy and Environmental Protection (CTDEEP) will be performed in conjunction with the code violation project.

1.3 DESCRIPTION OF WORK

- A. The Hazardous Materials Abatement Contractor (HMAC) shall furnish all labor, materials, facilities, equipment, services, employee training and testing, permits and agreements, and waste transport, incineration, and reclamation necessary to perform the work required for universal waste removal and reclamation in accordance with these specifications; EPA, OSHA, NIOSH, State of Connecticut regulations, and other applicable federal, state and local government regulations. Whenever there is a conflict or overlap of the above references, the most stringent provisions are applicable.
- B. The Project includes the removal and replacement of existing suspended ceiling systems with asbestos-containing ceiling tiles. The light fixtures associated with these ceiling systems will be demolished and replaced concurrently with the asbestos abatement project. Refer to Sections 020750 Selective Demolition For Hazardous Materials Abatement and 020800 Asbestos Abatement for additional requirements including work area construction, worker certifications, and cleaning procedures if the asbestos containing ceiling tiles will be impacted during fixture removal.
- C. Ballasts associated with the lighting fixtures are presumed to contain Polychlorinated Biphenyls (PCB) or Di-ethylhexylphthalate (DEHP) and considered to be a universal waste. The HMAC shall properly recycle ballasts and associated metal light fixtures.
- D. Collection, reclamation and incineration of PCB/DEHP-containing light ballasts: The HMAC is responsible for disassembling and properly disposing of approximately two hundred twenty-two (222) PCB/DEHP ballasts.

- E. Collection and reclamation of inert gases in lamp products: The HMAc is responsible for disassembling all light fixtures scheduled to be replaced and removing the associated lamps from the fixtures for proper reclamation. The HMAc is responsible for properly removing and reclaiming approximately one thousand seven hundred seventy six (1,776) linear feet of lamps.

1.4 APPLICABLE CODES

A. State Regulations

1. Section 22a-449(c)-113 - Regulations of Connecticut State Agencies (RCSA) for disposal of ballast.
2. Section 22a-465 – Regulation of Connecticut State Agencies for remediation of PCB Bulk Remediation Waste.

B. Federal Regulations

1. 29 CFR 1910.120 – Hazardous Waste Operations and Emergency Response
2. 29 CFR 1910.134 – Respiratory Protection
3. 40 CFR 263 – Standards applicable to Transporters of Hazardous Waste
4. 40 CFR 264 – Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities
5. 40 CFR 268 – Land Disposal Restrictions
6. 40 CFR Part 700 - Toxic Substance Control Act (TSCA)
7. 40 CFR Part 761 – PCB Manufacturing, Processing, Distribution in Commerce and Use Prohibition.

1.5 DEFINITIONS: WHERE APPLICABLE OR STATED, TERMS SHALL HAVE THE FOLLOWING DEFINITIONS:

- A. Universal Waste shall mean batteries, Mercury-containing thermostats, certain pesticides, lamps (including but not limited to fluorescent, neon and mercury vapor lamps), and used electronics.
- B. Large Quantity Generator means a handler can accumulate 5000 kilograms or more of universal waste at any time.
- C. Small Quantity Generator means a handler can accumulate not more than 5000 kilograms or more of universal waste at any time.
- D. Handler means the Generator of the universal waste product.

1.6 GENERAL REQUIREMENTS

- A. The HMAc is subject to approval by the Owner’s Consultant and all regulatory agencies with jurisdiction over this work, and may be rejected based on criteria established.
- B. The Owner’s Consultant requires that documentation be provided for all aspects of work detailing the bidder’s qualifications and prior experience on the following criteria:
- C. Workers handling universal waste must be informed by their employer of the proper handling and emergency procedures appropriate to the type(s) of universal waste handled at the facility.

PART 2 - PRODUCTS

2.1 TRANSPORTATION AND STORAGE CONTAINERS AND LABELING

- A. All containers for universal waste must be closed, structurally sound, compatible with the contents of the universal waste, and must be capable of preventing leakage, spillage or damage that could cause leakage.
- B. All universal waste products must be stored in a container and the container shall be properly labeled. Appropriate labeling is as follows.
 - 1. Universal waste lamps (each lamp) or the container or package in which such lamps are contained must be labeled or marked clearly with any of the following: "Universal Waste - Lamp(s)" or "Waste Lamp(s), or "Used Lamp(s)".

PART 3 - EXECUTION

3.1 BALLAST REMOVAL

- A. The HMAC shall remove all light ballasts and capacitors and shall immediately package for reclamation.
- B. Leaking light ballasts and capacitors must be separated from non-leaking ballasts and capacitors for separate disposal or incineration. Light fixtures stained with dielectric fluid shall be removed and properly disposed of.
- C. Workers shall don chemically resistant gloves as exterior surfaces may contain trace quantities of DEHP or PCB.
- D. If a leaking ballast or capacitor is detected during removal, workers shall immediately don chemically resistant protective suits, (i.e., Tyvek), to reduce skin contact with DEHP or PCBs.
- E. HMAC shall have on hand spill containment and absorbent materials in the event a spillage of DEHP-containing fluids occurs. Provide appropriate polyethylene sheeting to protect concrete floor and other surfaces from any spillage.
- F. All protective equipment (gloves, suits) and materials contaminated during cleanup of ballasts shall be disposed of as DEHP contaminated waste along with the ballast.
- G. All protective equipment (gloves, suits) and materials contaminated during cleanup of capacitors shall be disposed of as PCBs contaminated waste along with the capacitor.
- H. All ballasts and capacitors shall be placed in DOT-approved barrels for subsequent transport immediately upon removal. Barrels shall be properly labeled to identify contents and handling hazards.
- I. Use new 17C 55-gallon open head steel drums that have been approved for transporting hazardous materials. Used or reconditioned drums may be used only if they have been properly cleaned, tested, and labeled.

- J. Drums shall be prepared by placing one to three inches of absorbent material in the bottom of the drum.
- K. Drums shall be packed so as to not exceed a total weight of 900 pounds. If proper handling equipment is not available, half fill the drums so that manual handling is possible.
- L. Manifest ballasts at an approved facility.
- M. Provide manifests following work.

3.2 INERT GAS RECLAMATION

- A. Light fixtures shall be disassembled and inspected by the HMAC. All resulting lamps shall be immediately packaged for reclamation.
- B. Workers shall don chemically resistant gloves as exterior surfaces may contain trace quantities of PCB's or Mercury.
- C. Carefully remove fluorescent lighting and place directly into boxes or barrels specifically designed for the transport of fluorescent lighting. Package lighting and ballast in accordance with the recycling facilities requirements. Broken glass and residual dust shall be HEPA vacuum and disposed of as Mercury contaminated materials.
- D. Manifest lighting reclamation at an approved facility.
- E. Provide Reclamation Certificates following work.

END OF SECTION

SECTION 020900 - LEAD PAINT AWARENESS

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.
- B. Related Sections:
 - 1. Section 011001: Hazardous Materials General Conditions
 - 2. Section 011600: Hazardous Materials Scheduling and Phasing
 - 3. Section 012200: Hazardous Materials Unit Prices
 - 4. Section 017701: Hazardous Materials Contract Closeout
 - 5. Section 020750: Selective Demolition for Hazardous Materials Abatement
 - 6. Section 020800: Asbestos Abatement
 - 7. Section 020820: Universal Waste Reclamation

1.2 PROJECT DESCRIPTION

- A. The work specified herein covers the proper worker protection, work area preparation and removal and disposal of lead-based paint coated building components associated with the code violation project (the Project) scope of work at the Gilead Hill School building located at 530 Gilead Street in Hebron, Connecticut. Work covered under this Section does not constitute lead-based paint abatement in accordance with the State of Connecticut Department of Public Health (CTDPH) Lead Poisoning Prevention and Control Regulation.
- B. Certain building components at the building were determined to contain levels of lead in paint or coatings that may cause worker exposure during proposed renovation work. Any disturbance to the lead-based painted components resulting from manual or mechanical demolition or work necessary to facilitate demolition shall be conducted in accordance with this specification.
- C. Bar joists, roof decking and trusses associated with roof structure within the building were found to contain coatings that contained lead in concentrations below 1.0 mg/cm².
- D. Components within the building that were determined to contain high levels of lead-based paint (>1.0 mg/cm²) include structural steel components. Any painted surfaces that were not tested but will be impacted shall be assumed to be coated with lead-based paint.
- E. The personnel performing lead-based paint removal work shall be trained in accordance with the Department of Labor's Occupational Safety and Health Administration (OSHA) 29 CFR 1926.62. Lead in Construction Standard. This Specification is intended to provide general information pertaining to lead in surface coatings at the site and to assist the Hazardous Materials Abatement Contractor (HMAC) in complying with applicable worker protection and disposal laws. It is the sole responsibility of the HMAC to comply with all OSHA worker protection laws and disposal laws.

- F. All painted, varnished, shellacked, stained, primed or otherwise coated surfaces should be assumed to contain lead above 0.0 mg/cm². Trades performing work that impact any painted, varnished, shellacked, stained, primed or otherwise coated surface must comply with the requirements of OSHA 29 CFR 1926.62 Lead in Construction Standard.
- G. The HMAC should assume that building components that were not tested but that are like in color and construction date have similar lead paint levels as the components that were tested. In accordance with OSHA 29 CFR 1926.62, the HMAC must assume certain exposure levels for certain tasks in the absence of testing or personal exposure monitoring data. It is the sole responsibility of the HMAC to comply with OSHA 29 CFR 1926.62 for all tasks that disturb paint, varnish, shellac, stain or other surface coatings.
- H. All components and surfaces that will be impacted by the work of this project shall be covered by this Specification.
- I. Metal structural steel components removed from the building must be recycled in an approved recycling facility that accepts metal coated with lead-based paint.
- J. Paint chips or paint removed from structural steel shall be properly packaged, labeled, and disposed of as hazardous lead waste in an approved landfill that will accept this waste.
- K. Toxicity Characteristic Leachate Procedure (TCLP) testing of the demolition waste stream has not been performed at this Site. For purposes of bidding, all paint chips associated with structural steel components shall be disposed of as hazardous lead waste. The HMAC shall comply with all applicable requirements regarding disposal and recycling of metal components coated with lead-based paint, asbestos and presumed polychlorinated biphenyls (PCBs). Confirmation of location and quantities of materials to be removed as hazardous lead waste shall be confirmed with the Owner and Owner's Consultant prior to the start of any work.

1.3 APPLICABLE CODES

- A. The HMAC shall be solely responsible for conducting this project and supervising all work in a manner which will be in conformance with all federal, state and local regulations and guidelines pertaining to lead paint abatement. Specifically, the HMAC shall comply with the requirements of the following:
 - 1. Occupational Safety and Health Administration: OSHA
 - a. 29 CFR 1910 General Industry Standards
 - b. 29 CFR 1910.1025 Lead Standard for General Inventory
 - c. 29 CFR 1910.134 Respiratory Protection
 - d. 29 CFR 1910.1200 Hazard Communication
 - e. 29 CFR 1910.245 Specifications for Accident Prevention (Sign and Tags)
 - f. 29 CFR 1926.62 Lead in Construction Final Rule
 - 2. State of Connecticut Department of Energy and Environmental Protection: DEEP
 - a. Guidance for the management and disposal of lead contaminated materials generated in the lead abatement renovation and demolition industries.
 - b. All applicable hazardous solid waste disposal regulations.

3. USEPA

- a. 40 CFR 745.100 - .119 Final Rule
- b. 40 CFR Part 261 United States Environmental Protection Agency

1.4 DEFINITIONS

- A. "Action level" means employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air (30 ug/m (3)) calculated as an 8-hour time-weighted average (TWA).
- B. "Biological monitoring" means the analysis of a person's blood and/or urine, to determine the level of lead contamination in the body.
- C. "Competent person" means one who is capable of identifying existing and predictable lead hazards in the surroundings or working conditions and who has authorization to take prompt corrective measures to eliminate them.
- D. "Containment" means the process of erecting polyethylene barriers to control dust and debris emissions which is intended to keep adjacent areas and environment free of contamination.
- E. "HMAC" means the primary contractor and all sub contractors performing the lead removal work.
- F. "Exposure assessment" means the process of collecting and analyzing personal air samples to determine a worker's potential to be exposed to contaminants and to determine the level of respiratory and personal protective equipment that would be suitable to prevent exposure from occurring.
- G. HEPA (High Efficiency Particulate Air) means a type of filtering system capable of filtering out particles of 0.3 microns or greater diameter from a body of air at 99.97% efficiency or greater.
- H. "High phosphate detergent" is detergent that contains at least five (5%) percent tri-sodium phosphate (TSP).
- I. "Lead" means metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds.
- J. PEL (Permissible exposure limit) means the maximum allowable airborne concentration a worker can be exposed to over an eight (8) hour work shift without having to don respiratory and personal protective equipment. The OSHA PEL is 50 ug/m³.
- K. RCRA (Resource Conservation Recovery Act): The EPA enforced act, which establishes regulatory levels for hazardous chemicals. There are eight (8) heavy metals of concern for disposal: Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium and Silver.
- L. Standard means the OSHA Lead in Construction Standard 29 CFR 1926.62.

- M. Toxicity Characteristic Leachate Procedure: Is the EPA required sample preparation and analysis for determining the hazard characteristic of a waste generated at a lead abatement site.

1.5 FEES, PERMITS AND LICENSES

- A. The HMAC shall comply with the provisions of all permits or applications required by the work specified, as well as make all submittals required under those auspices.
- B. The HMAC shall make notifications to the local Police Department and Fire Department regarding the project.

1.6 SEQUENCING AND SCHEDULING

- A. The HMAC shall extend full cooperation to Owner in all matters involving the use of Owner's facilities. At no time shall the HMAC cause or allow to be caused conditions that may cause risk or hazards to the general public or conditions that might impair safe use of the facility.
- B. The HMAC shall submit a time-line schedule, not date specific, to Owner and Owner's Consultant for integration into the overall project schedule. Coordinate the work of this section with the needs of the Owner and General Contractor. Phasing and scheduling of this project will be at the discretion of the General Contractor and shall not proceed in any area without the express consent of the General Contractor.
- C. The HMAC shall coordinate their work with the progress of the work of other trades so that the work shall be completed as soon as conditions permit. Work under this project may be performed in phases to accommodate Owner's/Architect's requirements and construction phases. Coordinate schedule and operations with the Owner/Architect/Owner's Consultant and other trades.
- D. Schedule initial assessment work in areas where the work will not cause an exposure potential to unprotected individuals.

1.7 SUBMITTALS

- A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work.
- B. The HMAC shall provide the following pre-project submittals prior to initiating work at the Site:
 - 1. Copies of all notifications, permits, applications, licenses and like documents required by federal, state and local regulations obtained or submitted in proper fashion.
 - 2. Copies of medical records for each employee to be used on the project.
 - 3. Record of successful respirator fit testing performed by a qualified individual within the previous year, for each employee to be used on this project with the employee's name and social security number with each record.
 - 4. Proposed respiratory protection program for employees throughout all phases of the job, including make, model and NIOSH approval numbers of respirators to be used.

5. Written description, for the Owner's review and acceptance, of all proposed procedures, methods or equipment to be utilized that differ from the Contract Specifications, including manufacturers' specifications on any equipment not specified for use by this Section; in all instances, the HMAC must comply with all applicable federal, state and local regulations.
 6. Chain-of-Command of responsibility at work site including supervisors, foremen, and competent person, their names, resumes and certificates of training.
 7. List of all supervisors and workers intended to be assigned to the project.
 8. Safety Data Sheets (SDS) on all materials and chemicals to be used on the project.
 9. Lead Based Paint compliance plan.
- C. The HMAC shall provide the following post-project submittals at the completion of the work on site:
1. Copies of completed non-hazardous waste manifests.
 2. Copies of work area access logs.
 3. Copies of supervisor log
 4. Copies of all OSHA Compliance air sampling results.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name and product technical description.
- B. Damaged or deteriorating materials shall not be used and shall be removed from the premises.
- C. Fire retardant polyethylene sheet in a roll size to minimize the frequency of joints shall be delivered to job site with factory label indicating 6 mil.
- D. Polyethylene disposable bags shall be six (6) mil with pre-printed label. Tie wraps for bags shall be plastic, five (5) inches long (minimum), pointed and looped to secure filled plastic bags.
- E. Tape shall be capable of sealing joints in adjacent polyethylene sheets and for attachment of polyethylene sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including use of amended water.
- F. Impermeable containers are to be used to received and retain any lead containing or contaminated materials until disposal at an acceptable disposal site. (The containers shall be labeled in accordance with EPA and DOT standards.)
- G. HEPA filtered exhaust systems shall be used during any dust generating deleading operations.
- H. Other materials such as lumber, nails and hardware necessary to construct and dismantle the decontamination enclosures and the barriers that isolate the work area shall be provided as appropriate for the work.

PART 3 - EXECUTION

3.1 INITIAL EXPOSURE ASSESSMENT

- A. In order to comply with the requirements of OSHA 29 CFR 1926.62 Lead in Construction regulation, an initial exposure assessment must be performed for each activity that disturbs lead paint covered building materials. If the results of the initial exposure assessment are less than the "Action Level" for lead dust exposure of 30 micrograms per cubic meter of air, the employer is not obligated to comply with most requirements of the regulation. If the results of the initial exposure assessment are greater than the Action Level for lead dust exposure, all requirements of the Standard apply.
1. The Scope of this Section applies to all construction work where an employee may be occupationally exposed to lead. All construction work excluded from the general industry standard for lead 29 CFR 1910.1025(a) (2) is covered by this section. This includes but is not limited to the following.
 - a. Demolition or salvage of structures where lead or materials containing lead is present.
 - b. Removal or encapsulation of materials containing lead.
 - c. New construction, alteration, repair, or renovation of structures, substrates, or portions thereof that contain lead, or materials containing lead.
 - d. Lead contamination cleanup
 - e. Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed.
 - B. The HMAC shall assume that the employee is being exposed above the Permissible Exposure Level (PEL) until an initial exposure assessment has been completed for each lead related task being performed.
 - C. For the purpose of the initial exposure assessment, employee exposure is that exposure which would occur if the employee were not using a respirator.
 - D. The employer shall collect personal air samples representative of a full shift including at least one sample for each job classification in each work area for each shift or for the shift with the highest exposure level.
 - E. Until the employer performs an initial exposure assessment as required by the Standard, the employer shall provide appropriate respiratory protection, appropriate personal protective equipment, clean change areas, hand washing facilities, biological monitoring, training under 29 CFR 1926.59, Hazard Communication; 29 CFR 1926.62 – Lead, 29 CFR 1926.21, Safety Training and Education.
 - F. Where the employer has objective data, demonstrating that a particular product or material containing lead or a specific process, operation or activity involving lead cannot result in employee exposure to lead at or above the Action Level during processing, use or handling, the employer may rely upon such data instead of implementing initial monitoring.

3.2 LEAD-BASED PAINT COMPLIANCE PLAN

- A. The HMAC shall be required to submit a lead-based paint compliance plan to the Owner detailing how the HMAC will maintain compliance with this Specification.
- B. The HMAC shall describe the work procedures within the compliance plan that will be utilized to prevent contamination to the work site and surrounding environment.
- C. The HMAC shall describe the work procedures and engineering controls that will be implemented to ensure that workers are not exposed above OSHA's PEL for lead dust exposure.
- D. The HMAC shall describe how compliance with the hazardous waste disposal regulations will be met.

3.3 DUST GENERATING ACTIVITIES – WORK AREA PREPARATION

- A. The HMAC shall establish a clean area outside the abatement areas for workers to change into protective clothing and store personal belongings.
- B. When dust generating activities are undertaken, the work area shall be isolated from other trades by double flapped curtain doorways. The HMAC shall utilize double flapped curtain doorways for separation of the work area from the non-work area. All ingress to the work area shall be through the double flapped curtain doorways.
- C. All HVAC vents and grills shall also be sealed with a single layer of six (6)-mil polyethylene sheeting sealed with duct tape.
- D. Windows to the outside of the building shall remain shut during demolition activities.
- E. The HMAC shall post lead hazard warning signs in accordance with OSHA 29 CFR 1926.62. It shall be the sole responsibility of the HMAC to ensure that only authorized personnel are permitted to enter the work area. A work area access log shall be maintained at the entrance to the work area. Authorized personnel shall sign in and out of the work area containment.

3.4 NON-DUST ACTIVITIES – WORK AREA PREPARATION

- A. The HMAC shall establish a clean area outside the abatement areas for workers to change into protective clothing and store personal belongings.
- B. When activities are undertaken that don't readily create dust, the work area shall be isolated from other trades by barrier caution tape. A buffer zone of a minimum of ten (10) feet is recommended between lead demolition activities and general trades work.
- C. The HMAC shall post lead hazard warning signs in accordance with OSHA 29 CFR 1926.62. It shall be the sole responsibility of the HMAC to ensure that only authorized personnel are permitted to enter the work area. A work area access log shall be maintained at the entrance to the work area. Authorized personnel shall sign in and out of the work area containment.

3.5 PERSONAL PROTECTION

- A. Eye protection, head protection, and ear protection shall be provided to each worker.
- B. The HMAC shall establish a wash station in close proximity to the work area where workers shall decontaminate their person. The wash station shall be supplied with warm water and soap and an ample supply of drying towels. Wash water shall be tested for proper disposal.
- C. All equipment used by workers inside the work area shall be wet wiped or bagged for later decontamination before removal from work area.
- D. The HMAC is responsible for using safe procedures to avoid electrical hazards. All temporary electrical wiring will be protected by GFIs.

3.6 PAINT DEMOLITION PROCEDURE

- A. Prior to any paint removal or removal of component coated with lead-based paint, the HMAC shall ensure that work area set up has been completed in accordance with applicable work area preparation section. Refer to the architects plans and specifications to determine extent of demolition work.
- B. Where possible, the HMAC shall remove components in their full units and shall minimizing breakage to the best extent feasible.
- C. The HMAC shall perform all incidental work necessary to facilitate removal of painted components.
- D. Dust control measures must be employed during demolition work.
- E. The HMAC shall transport painted components to the appropriate waste container as required to keep the work area free from tripping hazards.

3.7 PROHIBITED ACTIVITIES

- A. The HMAC shall be prohibited from the following:
 - 1. Sanding lead-based painted components without HEPA dust collection devices and appropriate engineering controls.
 - 2. Open flame paint removal.
 - 3. Torch cutting steel components without appropriate engineering controls.
 - 4. Rivet busting without appropriate engineering controls.
 - 5. Creating visible dust or fumes during lead-based paint removal.

3.8 CLEANING

- A. The HMAC shall thoroughly wet sweep the affected work areas. Floors shall be mopped with a 5% high phosphate solution or equivalent.
- B. The HMAC shall dispose of the polyethylene sheeting. The Owner's representative shall perform a visual inspection of the polyethylene sheeting to determine adequacy of cleaning procedures prior to removal.

- C. The HMAc shall HEPA vacuum all paint chips from surfaces within the work area.

3.9 DISPOSAL OF WASTE MATERIALS

- A. Caution Note for Contractors: All materials, whether hazardous or non-hazardous, shall be disposed of in accordance with all laws and the provisions of any or all applicable federal, state, county, or local regulations and guidelines. It shall be the sole responsibility of the HMAc to assure compliance with all laws and regulations relating to this disposal.
- B. The HMAc is responsible for performing and paying for all additional waste characterization testing, waste profiling and all other information required by their selected landfill for each shipment of waste.
- C. Metal components not contaminated by other hazardous or regulated materials shall be recycled at an approved recycling facility that accepts lead coated materials.
- D. Paint chips shall be disposed of as hazardous lead waste.

END OF SECTION

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor, Subcontractors, and/or suppliers providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Demolition and removal of finish systems, including ceilings and finishes as required.
 - 2. Demolition of identified lighting systems.
- B. Related Sections include the following:
 - 1. Division 01 Section "Summary" for use of premises and Owner-occupancy requirements.
 - 2. Division 01 Section "Temporary Facilities and Controls" for temporary construction and environmental-protection measures for selective demolition operations.
 - 3. Division 01 Section "Cutting and Patching" for cutting and patching procedures.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 PREINSTALLATION MEETINGS

- A. Pre-demolition Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to selective demolition including, but not limited to, the following:
1. Inspect and discuss condition of construction to be selectively demolished.
 2. Review structural load limitations of existing structure.
 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
 5. Review areas where existing construction is to remain and requires protection.

1.6 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property for environmental protection, for dust control and for noise control. Indicate proposed locations and construction of barriers.
- B. 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. Use of elevator and stairs.
 5. Locations of proposed dust- and noise-control temporary partitions and means of egress.
 6. Coordination of Owner's continuing occupancy of portions of existing building.
 7. Means of protection for items to remain and items in path of waste removal from building.
- C. Predemolition Photographs or Video: Submit before Work begins.

1.7 CLOSEOUT SUBMITTALS

- A. Inventory: After selective demolition is complete, submit a list of items that have been removed and salvaged.
- B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.8 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
 - 1. Comply with requirements specified in Division 01 Section "Summary."
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Storage or sale of removed items or materials on-site is not permitted.
- E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

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/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- B. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.
 - 1. Comply with requirements specified in Division 01 Section "Photographic Documentation."
 - 2. Inventory and record the condition of items to be removed and salvaged. Provide photographs of conditions that might be misconstrued as damage caused by salvage operations.

3. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 1. Comply with requirements for access and protection specified in Division 01 Section "Temporary Facilities and Controls."
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 4. Cover and protect furniture, furnishings, and equipment that have not been removed.

3.3 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 5. Maintain adequate ventilation when using cutting torches.

6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
9. Dispose of demolished items and materials promptly. Comply with requirements in Division 01 Section "Construction Waste Management and Disposal."

- B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

3.4 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them.

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. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
4. Comply with requirements specified in Division 01 Section "Construction Waste Management and Disposal."

- B. Burning: Do not burn demolished materials.

- C. Disposal: Transport demolished materials off Owner's property.

1. Include cost of all transportation and disposal.
2. Provide verification of all disposal trips.
3. Hazardous materials are to be handled and disposed of in accordance with all State, Local, and Federal regulations.

3.5 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 02 41 19

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 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Wood blocking, cants, and nailers.
 - 2. Wood furring and grounds.

1.3 DEFINITIONS

- A. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) or greater but less than 5 inches nominal (114 mm actual) in least dimension.
- B. 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. WCLIB: West Coast Lumber Inspection Bureau.
 - 4. WWPA: Western Wood Products Association.

1.4 ACTION 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 fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
 - 2. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5664.
 - 3. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

4. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.5 QUALITY ASSURANCE

- A. 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. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. 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.
- B. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal (38-mm actual) thickness or less, 19 percent for more than 2-inch nominal (38-mm actual) thickness unless otherwise indicated.

2.2 FIRE-RETARDANT-TREATED MATERIALS

- A. 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.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame spread index of 25 or less when tested according to ASTM E 84, and 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 (3.2 m) beyond the centerline of the burners at any time during the test.

1. Use treatment that does not promote corrosion of metal fasteners.
 2. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.
 3. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity. Use where exterior type is not indicated.
 4. Design Value Adjustment Factors: Treated lumber shall be tested according ASTM D 5664 and design value adjustment factors shall be calculated according to ASTM D 6841.
- C. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Kiln-dry plywood after treatment to a maximum moisture content of 15 percent.
- D. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.
1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece.
- E. Application: Treat all rough carpentry unless otherwise indicated.
1. Concealed blocking.

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. Grounds.
- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber and the following species:
1. Eastern softwoods; NeLMA.
- C. For concealed boards, provide lumber with 19 percent maximum moisture content and the following species and grades:
1. Hem-fir or hem-fir (north); Construction or No. 2 Common grade; NLGA, WCLIB, or WWPA.

- D. 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.
- E. 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.

2.4 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. Wood Screws: ASME B18.6.1.
- D. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry assemblies and equal to four times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.

2.5 MISCELLANEOUS MATERIALS

- A. Sill-Sealer Gaskets: Closed-cell neoprene foam, 1/4 inch (6.4 mm) thick, selected from manufacturer's standard widths to suit width of sill members indicated.

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. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- C. Do not splice structural members between supports unless otherwise indicated.
- D. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.

1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches (406 mm) o.c.
 - E. 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.
 - F. Comply with AWWPA 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.
 - G. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
 2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
 - H. Use steel common 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. Drive nails snug but do not countersink nail heads unless otherwise indicated.
- 3.2 WOOD GROUND, SLEEPER, BLOCKING, AND NAILER INSTALLATION
- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
 - B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
 - C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches (38 mm) wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.
- 3.3 PROTECTION
- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes sufficiently wet that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

SECTION 072100 – THERMAL INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor, Subcontractors, and/or suppliers providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Sound attenuation insulation.
- B. Related Sections include the following:
 - 1. Division 09 Section "Gypsum Board Assemblies" for installation in metal-framed assemblies of insulation specified by referencing this Section.

1.3 DEFINITIONS

- A. Mineral-Fiber Insulation: Insulation composed of rock-wool fibers, slag-wool fibers, or glass fibers; produced in boards and blanket with latter formed into batts (flat-cut lengths) or rolls.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Verification: Full-size units for each type of exposed insulation indicated.
- C. Low-emitting product certification.

1.5 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each product, for tests performed by a qualified testing agency.

1.6 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of building insulation through one source from a single manufacturer.

- B. Fire-Test-Response Characteristics: Provide insulation and related materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
 - 1. Surface-Burning Characteristics: ASTM E 84.
 - 2. Fire-Resistance Ratings: ASTM E 119.
 - 3. Combustion Characteristics: ASTM E 136.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.
- B. Indoor Air Quality Requirements: The following practices shall be implemented in accordance with Division 01 Section "Indoor Air Quality Requirements."
 - 1. Insulations are to be stored per manufacturer's recommendations for allowable temperature and humidity range. Insulations shall not be allowed to become damp.
 - 2. Where feasible, fiberglass, mineral wool, and other fibrous insulations shall be stored separately from materials which have high short-term emissions. Materials with high short-term emissions include, but are not limited to: adhesives, sealants and glazing compounds (specifically those with petrochemical vehicles or carriers); paint, wood preservatives, and finishes; control and/or expansion joint fillers; hard finishes requiring adhesive installation; gypsum board (with associated finish processes and products); and composite or engineered wood products with formaldehyde binders.
 - 3. Where feasible, exposed fiberglass or mineral wool insulations shall not be stored in occupied spaces, near HVAC diffusers (supply or return), or near fresh air intakes.

PART 2 - PRODUCTS

2.1 MINERAL-WOOL BLANKET INSULATION (SOUND ATTENUATION)

- A. Manufacturers: Subject to compliance with requirements, provide one of the following:
 - 1. Johns Manville; MinWool Sound Attenuation Fire Batts (SAFB).
 - 2. Rockwool; AFB.
 - 3. Thermafiber; SAFB.
- B. Unfaced, Mineral-Wool Blanket Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers; with maximum flame-spread and smoke-developed indexes of 0, per ASTM E 84; passing ASTM E 136 for combustion characteristics.

1. R-Value: Minimum 3.5 per inch.
2. NRC: 1.05 for 3 inch thickness.
3. Nominal density of 2.0 lb/cu. ft minimum.
4. Thickness: As indicated, but not less than required to meet R-value indicated.

2.2 ACCESSORIES

- A. Insulation for Miscellaneous Voids: Unfaced, Mineral-Wool Blanket Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers; with maximum flame-spread and smoke-developed indexes of 0, per ASTM E 84; passing ASTM E 136 for combustion characteristics.
- B. Adhesive for Bonding Insulation: Product compatible with insulation and air and water barrier materials, and with demonstrated capability to bond insulation securely to substrates without damaging insulation and substrates.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements of Sections in which substrates and related work are specified and for other conditions affecting performance.
 1. Proceed with installation only after unsatisfactory conditions have been corrected. Commencement of work indicates acceptance of substrates.

3.2 PREPARATION

- A. Clean substrates of substances harmful to insulation or vapor retarders, including removing projections capable of puncturing vapor retarders or of interfering with insulation attachment.

3.3 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and application indicated.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed at any time to ice, rain, and snow.
- C. Extend insulation in thickness indicated to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.

- D. For preformed insulating units, provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

3.4 INSTALLATION OF GENERAL BUILDING INSULATION

- A. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions. If no specific method is indicated, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.
- B. Install mineral-fiber insulation in cavities formed by framing members according to the following requirements:
 - 1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill cavity, provide lengths that will produce a snug fit between ends.
 - 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
 - 3. For metal-framed wall cavities where cavity heights exceed 96 inches, support unfaced blankets mechanically and support faced blankets by taping flanges of insulation to flanges of metal studs.
- C. Install unfaced, slag-wool-fiber/rock-wool-fiber blanket insulation in penetrations in all non-fire rated horizontal floor/ceiling assemblies. Fill annular space of penetration to resist the free passage of flame and the products of combustion.

3.5 PROTECTION

- A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 07 21 00

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. Penetrations in fire-resistance-rated walls.
 - 2. Penetrations in smoke barriers.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.4 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.
- C. Shop Drawings: For each through-penetration firestop system, show each type of construction condition penetrated, relationships to adjoining construction, and type of penetrating item. Include firestop design designation of qualified testing and inspecting agency that evidences compliance with requirements for each condition indicated.
 - 1. Submit documentation, including illustrations, from a qualified testing and inspecting agency that is applicable to each through-penetration firestop system configuration for construction and penetrating items.

2. Where Project conditions require modification to a qualified testing and inspecting agency's illustration for a particular through-penetration firestop condition, submit illustration, with modifications marked, approved by through-penetration firestop system manufacturer's fire-protection engineer as an engineering judgment or equivalent fire-resistance-rated assembly.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Certificates: For through-penetration firestop system products, signed by product manufacturer.
- C. Product Test Reports: For each penetration firestopping system, for tests performed by a qualified testing agency.

1.6 CLOSEOUT SUBMITTALS

- A. Installer Certificates: From Installer indicating that penetration firestopping systems have been installed in compliance with requirements and manufacturer's written instructions.

1.7 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 Responsibility: Assign installation of through-penetration firestop systems and fire-resistive joint systems in Project to a single qualified installer.
- C. Source Limitations: Obtain through-penetration firestop systems, for each kind of penetration and construction indicated, through one source from a single manufacturer.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver through-penetration firestop products to Project site in original, unopened containers or packages with intact and legible manufacturers' labels identifying product and manufacturer, date of manufacture, lot number, shelf life if applicable, qualified testing and inspecting agency's classification marking applicable to Project, curing time, and mixing instructions for multicomponent materials.
- B. Store and handle materials for through-penetration firestop systems to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

1.9 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.

1.10 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.
- C. Notify Owner's inspecting agency at least seven days in advance of through-penetration firestop system installations; confirm dates and times on days preceding each series of installations.
- D. Do not cover up through-penetration firestop system installations that will become concealed behind other construction until each installation has been examined by Owner's inspecting agency and building inspector, if required by authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General: For penetrations through the following fire-resistance-rated constructions, including both empty openings and openings containing penetrating items, provide through-penetration firestop systems that are 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.
 - 1. Fire-resistance-rated walls including fire walls and fire barriers.
- B. Rated Systems: Provide through-penetration firestop systems with the following ratings determined per ASTM E 119, ASTM E 814 and UL 1479:
 - 1. F-Rated Systems: Provide through-penetration firestop systems with F-ratings indicated, but not less than that equaling or exceed fire-resistance rating of constructions penetrated.
 - 2. T-Rated Systems: For the following conditions, provide through-penetration firestop systems with T-ratings indicated, as well as F-ratings, where systems protect penetrating items exposed to potential contact with adjacent materials in occupiable floor areas:

- a. Penetrations located outside wall cavities.
 - b. Penetrations located outside fire-resistance-rated shaft enclosures.
- C. For through-penetration firestop systems exposed to view, traffic, moisture, and physical damage, provide products that, after curing, do not deteriorate when exposed to these conditions both during and after construction.
1. For piping penetrations for plumbing and wet-pipe sprinkler systems, provide moisture-resistant through-penetration firestop systems.
 2. For floor penetrations with annular spaces exceeding 4-inches in width and exposed to possible loading and traffic, provide firestop systems capable of supporting floor loads involved, either by installing floor plates or by other means.
 3. For penetrations involving insulated piping, provide through-penetration firestop systems not requiring removal of insulation.
- D. For through-penetration firestop systems exposed to view, provide products with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, as determined per ASTM E 84.
- E. Fire-Test-Response Characteristics:
1. Perform penetration firestopping system tests by a qualified testing agency acceptable to authorities having jurisdiction.
 2. Test per testing standards referenced in "Penetration Firestopping Systems" Article. Provide rated systems complying with the following requirements:
 - a. Penetration firestopping systems shall bear classification marking of a qualified testing agency.
 - 1) UL in its "Fire Resistance Directory."

2.2 FIRESTOPPING, GENERAL

- A. Compatibility: Provide through-penetration firestop systems that are compatible with one another; with the substrates forming openings; and with the items, if any, penetrating through-penetration firestop systems, under conditions of service and application, as demonstrated by through-penetration firestop system manufacturer based on testing and field experience.
- B. VOC Content: Provide penetration firestopping that complies with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
1. Architectural Sealants: 250 g/L.
 2. Sealant Primers for Nonporous Substrates: 250 g/L.
 3. Sealant Primers for Porous Substrates: 775 g/L.

2.3 PENETRATION FIRESTOPPING SYSTEMS

- A. Penetration Firestopping Systems: Systems that resist spread of fire, 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.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. 3M Fire Protection Products.
 - b. Hilti, Inc.
 - c. Tremco; Tremstop Fire Protection System Group.
 - B. 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-/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.

2.4 FILL MATERIALS

- A. General: Provide through-penetration firestop systems containing the types of fill materials required in the Through-Penetration Firestop System Schedule at the end of Part 3 by referencing the types of materials described in this Article. Fill materials are those referred to in directories of referenced testing and inspecting agencies as "fill," "void," or "cavity" materials.
- B. Cast-in-Place Firestop Devices: Factory-assembled devices for use in cast-in-place concrete floors and consisting of an outer sleeve lined with an intumescent strip, a flange attached to one end of the sleeve for fastening to concrete formwork, and a neoprene gasket.
- C. Latex Sealants: Single-component latex formulations that do not re-emulsify after cure during exposure to moisture.

- D. Firestop Devices: Factory-assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetrant.
- E. Intumescent Composite Sheets: Rigid panels consisting of aluminum-foil-faced intumescent elastomeric sheet bonded to galvanized-steel sheet.
- F. Intumescent Putties: Nonhardening, water-resistant, intumescent putties containing no solvents or inorganic fibers.
- G. Intumescent Wrap Strips: Single-component intumescent elastomeric sheets with aluminum foil on one side.
- H. 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.
- I. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.
- J. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants.
 - 1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces and nonsag formulation for openings in vertical and other surfaces requiring a nonslumping, gunnable sealant, unless indicated firestop system limits use to nonsag grade for both opening conditions.
 - 2. Grade for Horizontal Surfaces: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces.
 - 3. Grade for Vertical Surfaces: Nonsag formulation for openings in vertical and other surfaces.

2.5 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.
- C. Masking Tape: Use masking tape to prevent through-penetration firestop systems from contacting adjoining surfaces that will remain exposed on completion of Work and that would otherwise be permanently stained or damaged by such contact or by cleaning methods used to remove smears from firestop system materials. Remove tape as soon as possible without disturbing firestop system's seal with substrates.

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: 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 E 2174.
- 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.

3.7 PENETRATION FIRESTOPPING SYSTEM SCHEDULE

- A. Where UL-classified systems are indicated, they refer to system numbers in UL's "Fire Resistance Directory" under product Category XHEZ.
- B. Penetration Firestopping Systems with No Penetrating Items:
 - 1. UL-Classified Systems: C-AJ- 0001-0999.
 - 2. Type of Fill Materials: As required to achieve rating.
- C. Penetration Firestopping Systems for Metallic Pipes, Conduit, or Tubing:
 - 1. UL-Classified Systems: C-AJ- W-L- 1001-1999.
 - 2. Type of Fill Materials: As required to achieve rating.
- D. Penetration Firestopping Systems for Nonmetallic Pipe, Conduit, or Tubing:
 - 1. UL-Classified Systems: C-AJ- W-L- 2001-2999.
 - 2. Type of Fill Materials: As required to achieve rating.
- E. Penetration Firestopping Systems for Electrical Cables:
 - 1. UL-Classified Systems: C-AJ- W-L- 3001-3999.
 - 2. Type of Fill Materials: As required to achieve rating.
- F. Penetration Firestopping Systems for Cable Trays with Electric Cables:
 - 1. UL-Classified Systems: C-AJ- W-L- 4001-4999.
 - 2. Type of Fill Materials: As required to achieve rating.
- G. Penetration Firestopping Systems for Insulated Pipes:
 - 1. UL-Classified Systems: C-AJ- W-L- 5001-5999.
 - 2. Type of Fill Materials: As required to achieve rating.

- H. Penetration Firestopping Systems for Miscellaneous Electrical Penetrants:
 - 1. UL-Classified Systems: C-AJ- W-L- 6001-6999.
 - 2. Type of Fill Materials: As required to achieve rating.

- I. Penetration Firestopping Systems for Miscellaneous Mechanical Penetrants:
 - 1. UL-Classified Systems: C-AJ- W-L- 7001-7999.
 - 2. Type of Fill Materials: As required to achieve rating.

- J. Penetration Firestopping Systems for Groupings of Penetrants:
 - 1. UL-Classified Systems: C-AJ- W-L- 8001-8999.
 - 2. Type of Fill Materials: As required to achieve rating.

END OF SECTION 078413

CODE VIOLATION DOCUMENT - FIRESTOPPING

Project: Gilead Hill School – Code Violation Projects

Project Number: 067-0045 CV

Owner: Town of Hebron


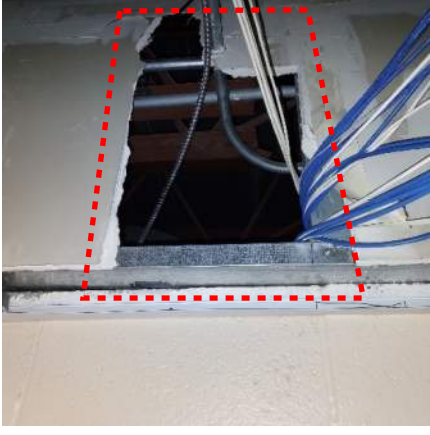
Date: 12/08/25

A/E Project Number: 2024-021B/C

Photographs / Descriptions:

Typical Notes:

- Basis of Design is HILTI, Inc., refer to specifications for equal manufacturers.
- Refer to Contact Drawings for photo locations.

Photograph	Description
	<ul style="list-style-type: none"> • Photo 1 – Main Lobby A1: Seal penetration in 2-hour CMU wall construction. Furnish and install Fire Foam, System No. C-AJ-8096 Insulated or non-insulated steel, cast iron, copper, conduit or EMT pipes, flexible metal conduit or cables (single or bundled) (AS varies)
	<ul style="list-style-type: none"> • Photo 2 – Telcom Room F5: Seal penetration in 20-minute stud wall construction. Furnish and install metal studs & gypsum board to create a smaller opening(s) Install System No. FM 340 w/ FS-One Max







- Photo 3 – Corridor F1: Seal penetration in 20-minute CMU wall construction.
Install System No. FM 591 w/ CP 618






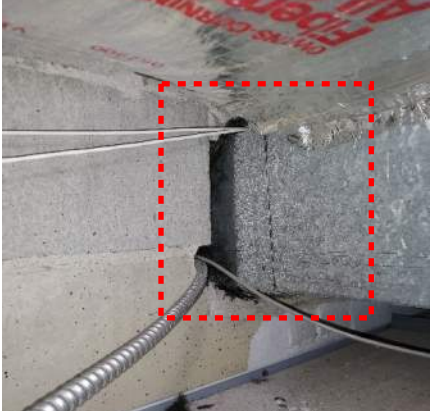
- Photo 4 – Corridor F1: Seal 2 pipe penetrations in 20-minute CMU wall construction. Furnish & install CMU infill as required.
Install System No. FM 591 w/ CP 618







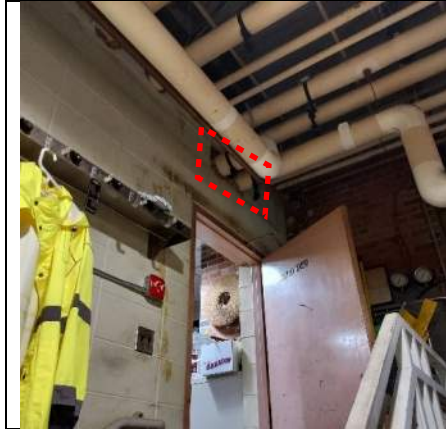
- Photo 5 – Corridor F1: Seal 2 pipe penetrations in 20-minute CMU wall construction.
Install System No. FM 591 w/ CP 618

	<ul style="list-style-type: none"> • Photo 6 – Corridor B2: Seal penetration in 2-hour masonry wall construction. Furnish and install Fire Foam, System No. C-AJ-8096
	<ul style="list-style-type: none"> • Photo 7 – Corridor B2: Seal penetration in 2-hour masonry wall construction. Max. 24" x 12" blank opening 2-Hour Firestop Block Install System No. C-AJ-0138
	<ul style="list-style-type: none"> • Photo 8 – Corridor B2: Seal penetrations in 2-hour masonry wall construction. Max. 2" steel pipe with max. 1" glass fiber insulation, Furnish and Install System No. C-AJ-5048 at existing steel pipes. Furnish and install System No. C-BJ-0022 with Firestop Block at perimeter.
	<ul style="list-style-type: none"> • Photo 9 – Corridors B2 & C1: Seal penetrations in 1-hour stud wall construction. Furnish and install FS-ONE MAX System No. W-L-1176 / Max. 2" EMT or steel conduits (one or more) (AS varies)

	<ul style="list-style-type: none"> • Photo 10 – Corridor B2 / C1: Seal penetrations in 2-hour masonry wall construction. Furnish and Install System No. FS-ONE MAX System No. W-L-1205 at existing steel pipes. Max. 8" steel, cast iron, max. 6" conduit, max. 4" copper, EMT or max. 2" flexible steel conduit (sleeved) (shaft wall) (AS=1/4" to 1-5/8")
	<ul style="list-style-type: none"> • Photo 11 – Corridor B2 / B3: Seal penetrations in 2-hour masonry wall construction. Furnish and Install FS-ONE MAX System No. W-L-1205 at existing steel pipes. Max. 8" steel, cast iron, max. 6" conduit, max. 4" copper, EMT or max. 2" flexible steel conduit (sleeved) (shaft wall) (AS=1/4" to 1-5/8")
	<ul style="list-style-type: none"> • Photo 12 – Corridor B4: Seal penetrations in 1-hour masonry wall construction. Furnish and Install FS-ONE MAX System No. W-J-1088 at existing conduit. Max. 8" steel, cast iron, max. 6" conduit, max. 4" copper, EMT or max. 2" flexible steel conduit (shaft wall) (AS=1/4" to 1-5/8")
	<ul style="list-style-type: none"> • Photo 13 – Corridor B4: Seal penetrations in 1-hour masonry wall construction. Furnish and Install FS-ONE MAX System No. W-J-1088 at existing conduit. Max. 8" steel, cast iron, max. 6" conduit, max. 4" copper, EMT or max. 2" flexible steel conduit (shaft wall) (AS=1/4" to 1-5/8")

	<ul style="list-style-type: none"> • Photo 14 – Corridor D1: Seal duct penetrations in 20-minute masonry wall construction. Furnish and Install FS-ONE MAX System No. W-J-7124 Max. 20" spiral duct or 12" sheet metal duct (w/o damper) with 1-1/2" thick glass fiber duct insulation (AS=1/4" to 1")
	<ul style="list-style-type: none"> • Photo 15 – Corridor D1: Seal duct penetrations in 20-minute masonry wall construction. Furnish and Install FS-ONE MAX System No. W-J-7124 Max. 20" spiral duct or 12" sheet metal duct (w/o damper) with 1-1/2" thick glass fiber duct insulation (AS=1/4" to 1")
	<ul style="list-style-type: none"> • Photo 16 – Corridor D1: Seal duct penetrations in 20-minute masonry wall construction. Furnish and Install FS-ONE MAX System No. W-J-7124 Max. 20" spiral duct or 12" sheet metal duct (w/o damper) with 1-1/2" thick glass fiber duct insulation (AS=1/4" to 1")
	<ul style="list-style-type: none"> • Photo 17 – Corridor E1: Seal duct penetrations in 20-minute masonry wall construction. Furnish and Install FS-ONE MAX, CP 606, CFS-S SIL GG System No. W-J-7021 Max. 48" x 24" sheet metal duct w/o damper (AS=0" to 2")

	<ul style="list-style-type: none"> • Photo 18 – Corridor E1: Seal duct penetrations in 20-minute masonry wall construction. Furnish and Install FS-ONE MAX System No. W-J-7124 Max. 20” spiral duct or 12” sheet metal duct (w/o damper) with 1-1/2” thick glass fiber duct insulation (AS=1/4” to 1”)
	<ul style="list-style-type: none"> • Photo 19 – Corridor E1: Seal duct penetrations in 20-minute masonry wall construction. Furnish and Install FS-ONE MAX System No. W-J-7124 Max. 20” spiral duct or 12” sheet metal duct (w/o damper) with 1-1/2” thick glass fiber duct insulation (AS=1/4” to 1”)
	<ul style="list-style-type: none"> • Photo 20 – Corridor A3: Seal penetration in 2-hour CMU wall construction. Install System No. W-J-3074 w/ Firestop Block. Refer to specification section Allowances for Allowance in this area.
	<ul style="list-style-type: none"> • Photo 21 – Custodian’s Room: Seal penetrations in 1-hour masonry wall construction. Max. 2” steel pipe with max. 1” glass fiber insulation, Furnish and Install System No. C-AJ-5048 at existing steel pipes – 5 locations at the top of wall.

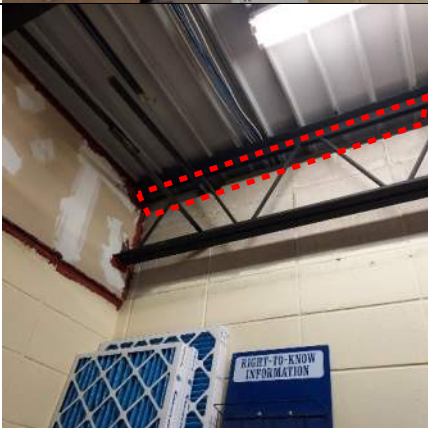


- Photo 22 – Boiler Room: 1-hour fire stopping penetrations in masonry wall construction. Furnish and install Fire Foam, System No. W-J-8016

Insulated or non-insulated steel, cast iron, copper, conduit or EMT pipes, flexible metal conduit or cables (single or bundled) (AS varies)



- Photo 23 – Storage Room, Refer to Photo 39: Seal penetration in 2-hour CMU wall construction. Install System No. W-J-3074 w/ Firestop Block. Roof drain piping to be moved to avoid rated wall construction



- Photo 24 – Storage Room, Refer to Photo 38: Seal top of wall at storage room for a smoke barrier wall construction. Furnish and Install Hilti CP-506-Smoke-and-Acoustic-Sealant at top of wall joint.

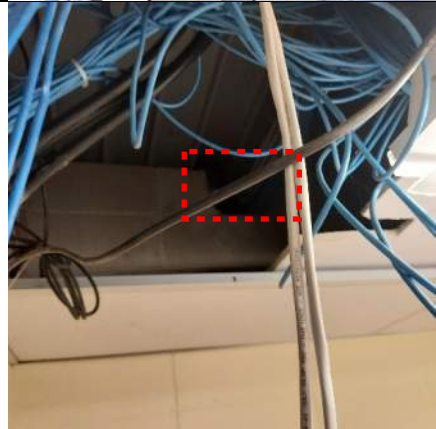


- Photo 25 – Storage Room Door: Furnish and install a new hollow metal door transom to provide a 20-minute fire rated barrier. Prime & paint transom to match door frame.



- Photo 26 – Corridor A4: At existing 2-hour fire separation wall. Furnish and install FS-ONE MAX System No. W-L-8065. Remove and replace all installations at this wall location to provide a listed 2-hour fire barrier.

Insulated or non-insulated metallic, nonmetallic pipes, and cable bundle
(AS varies) 1 or 2 Hr



- Photo 27 – Corridor B1: Seal penetration in 20-minute CMU wall construction. Furnish and install System No. FM 591 w/ CP 618



- Photo 28 – Corridor A5: Remove existing wood framing in ceiling space & provide fire rated wood framing, or metal framing to eliminate combustibles in ceiling space.



- Photo 29 – Corridor A5: Seal penetration in 20-minute CMU wall construction. Install System No. FM 591 w/ CP 618



- Photo 30 – Corridor C1: Seal penetration at ductwork in 1-hour rated CMU wall construction.
Furnish and install System No. W-J-7021 with FS-ONE MAX, CP 606, CFS-S SIL GG
Max. 48" x 24" sheet metal duct w/o damper (AS=0" to 2") 1 or 2 Hr

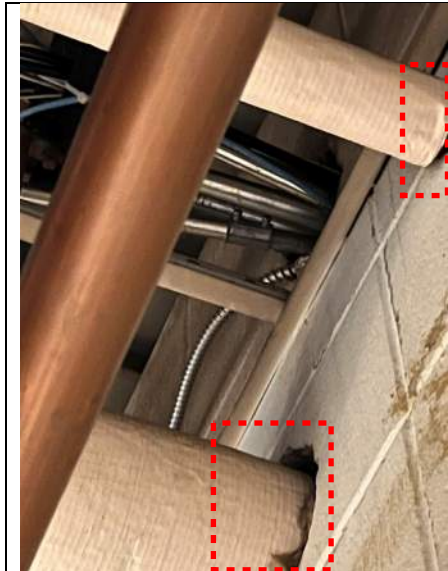


- Photo 31 – Corridor B1: Seal penetration in 20-minute CMU wall construction.
Furnish and install System No. FM 591 w/ CP 618



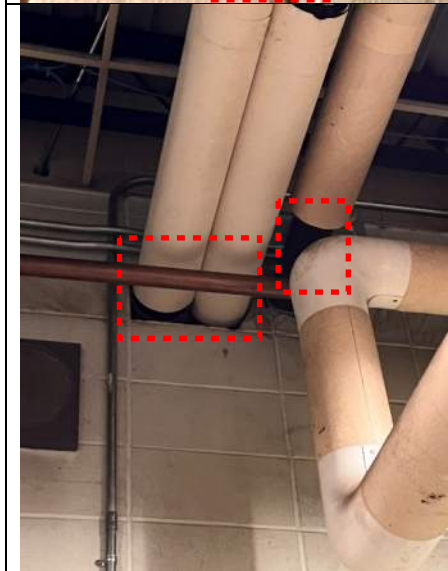
- Photo 32 – Boiler Room: 1-hour fire stopping penetrations in masonry wall construction. Furnish and install Fire Foam, System No. W-J-8016

Insulated or non-insulated steel, cast iron, copper, conduit or EMT pipes, flexible metal conduit or cables (single or bundled) (AS varies)



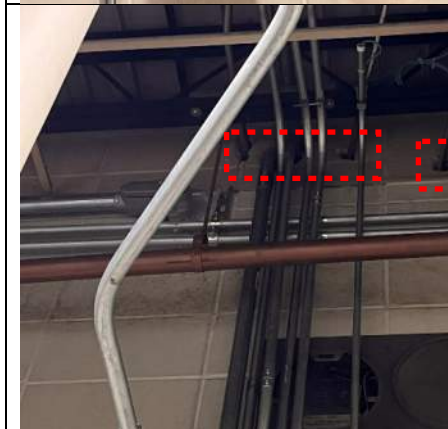
- Photo 33 – Boiler Room: 1-hour fire stopping penetrations in masonry wall construction. Furnish and install Fire Foam, System No. W-J-8016

Insulated or non-insulated steel, cast iron, copper, conduit or EMT pipes, flexible metal conduit or cables (single or bundled) (AS varies)



- Photo 34 – Boiler Room: 1-hour fire stopping penetrations in masonry wall construction. Furnish and install Fire Foam, System No. W-J-8016

Insulated or non-insulated steel, cast iron, copper, conduit or EMT pipes, flexible metal conduit or cables (single or bundled) (AS varies)



- Photo 35 – Boiler Room, Refer to Photo 21: Seal penetrations in 1-hour masonry wall construction.

Max. 2” steel pipe with max. 1” glass fiber insulation, Furnish and Install System No. C-AJ-5048 at existing steel pipes – 5 locations at the top of wall.

	<ul style="list-style-type: none"> • Photo 36 – Custodian’s Room: 1-hour fire stopping penetrations in masonry wall construction. Furnish and install Fire Foam, System No. W-J-8016 <p>Insulated or non-insulated steel, cast iron, copper, conduit or EMT pipes, flexible metal conduit or cables (single or bundled) (AS varies)</p>
	<ul style="list-style-type: none"> • Photo 37 – Custodian’s Room: Custodian’s Room: 1-hour fire stopping penetrations in masonry wall construction. Furnish and install Fire Foam, System No. W-J-8016 <p>Insulated or non-insulated steel, cast iron, copper, conduit or EMT pipes, flexible metal conduit or cables (single or bundled) (AS varies)</p>
	<ul style="list-style-type: none"> • Photo 38 – Storage Room: Seal top of wall at storage room for a smoke barrier wall construction. Furnish and Install Hilti CP-506-Smoke-and-Acoustic-Sealant at top of wall joint.
	<ul style="list-style-type: none"> • Photo 39 – Storage Room: Seal penetration in 2-hour CMU wall construction. Install System No. W-J-3074 w/ Firestop Block. Roof drain piping to be moved to avoid rated wall construction



- Photo 40 – Math Lab: Seal penetrations in 2-hour CMU wall construction. Refer to specification section Allowances for this area.
Furnish and install Fire Foam System No. C-AJ-8096

Insulated or non-insulated copper or steel, cables (single or bundled), or flexible steel conduit (included Hollow Core) (AS varies)



- Photo 41 – Math Lab: Seal penetrations in 2-hour CMU wall construction. Refer to specification section Allowances for this area.
Furnish and install Fire Foam System No. C-AJ-8096

Insulated or non-insulated steel, cast iron, copper, conduit or EMT pipes, flexible metal conduit or cables (single or bundled) (AS varies)

Date: 12/08/2025

CODE VIOLATION DOCUMENT - FIRESTOPPING

Project: Gilead Hill School – Code Violation Projects

Project Number: 067-0045 CV

Owner: Town of Hebron



Date: 12/08/25

A/E Project Number: 2024-021B/C

Photographs / Descriptions:

Typical Notes:

- Basis of Design is HILTI, Inc., refer to specifications for equal manufacturers.
- Refer to Contact Drawings for photo locations.

Photograph	Description
	<ul style="list-style-type: none"> • Photo 1 – Main Lobby A1: Seal penetration in 2-hour CMU wall construction. Furnish and install Fire Foam, System No. C-AJ-8096 Insulated or non-insulated steel, cast iron, copper, conduit or EMT pipes, flexible metal conduit or cables (single or bundled) (AS varies)
	<ul style="list-style-type: none"> • Photo 2 – Telcom Room F5: Seal penetration in 20-minute stud wall construction. Furnish and install metal studs & gypsum board to create a smaller opening(s) Install System No. FM 340 w/ FS-One Max



- Photo 3 – Corridor F1: Seal penetration in 20-minute CMU wall construction.
Install System No. FM 591 w/ CP 618







- Photo 4 – Corridor F1: Seal 2 pipe penetrations in 20-minute CMU wall construction. Furnish & install CMU infill as required.
Install System No. FM 591 w/ CP 618



- Photo 5 – Corridor F1: Seal 2 pipe penetrations in 20-minute CMU wall construction.
Install System No. FM 591 w/ CP 618

	<ul style="list-style-type: none"> • Photo 6 – Corridor B2: Seal penetration in 2-hour masonry wall construction. Furnish and install Fire Foam, System No. C-AJ-8096
	<ul style="list-style-type: none"> • Photo 7 – Corridor B2: Seal penetration in 2-hour masonry wall construction. Max. 24" x 12" blank opening 2-Hour Firestop Block Install System No. C-AJ-0138
	<ul style="list-style-type: none"> • Photo 8 – Corridor B2: Seal penetrations in 2-hour masonry wall construction. Max. 2" steel pipe with max. 1" glass fiber insulation, Furnish and Install System No. C-AJ-5048 at existing steel pipes. Furnish and install System No. C-BJ-0022 with Firestop Block at perimeter.
	<ul style="list-style-type: none"> • Photo 9 – Corridors B2 & C1: Seal penetrations in 1-hour stud wall construction. Furnish and install FS-ONE MAX System No. W-L-1176 / Max. 2" EMT or steel conduits (one or more) (AS varies)

	<ul style="list-style-type: none"> • Photo 10 – Corridor B2 / C1: Seal penetrations in 2-hour masonry wall construction. Furnish and Install System No. FS-ONE MAX System No. W-L-1205 at existing steel pipes. Max. 8” steel, cast iron, max. 6” conduit, max. 4” copper, EMT or max. 2” flexible steel conduit (sleeved) (shaft wall) (AS=1/4” to 1-5/8”)
	<ul style="list-style-type: none"> • Photo 11 – Corridor B2 / B3: Seal penetrations in 2-hour masonry wall construction. Furnish and Install FS-ONE MAX System No. W-L-1205 at existing steel pipes. Max. 8” steel, cast iron, max. 6” conduit, max. 4” copper, EMT or max. 2” flexible steel conduit (sleeved) (shaft wall) (AS=1/4” to 1-5/8”)
	<ul style="list-style-type: none"> • Photo 12 – Corridor B4: Seal penetrations in 1-hour masonry wall construction. Furnish and Install FS-ONE MAX System No. W-J-1088 at existing conduit. Max. 8” steel, cast iron, max. 6” conduit, max. 4” copper, EMT or max. 2” flexible steel conduit (shaft wall) (AS=1/4” to 1-5/8”)
	<ul style="list-style-type: none"> • Photo 13 – Corridor B4: Seal penetrations in 1-hour masonry wall construction. Furnish and Install FS-ONE MAX System No. W-J-1088 at existing conduit. Max. 8” steel, cast iron, max. 6” conduit, max. 4” copper, EMT or max. 2” flexible steel conduit (shaft wall) (AS=1/4” to 1-5/8”)



- Photo 14 – Corridor D1: Seal duct penetrations in 20-minute masonry wall construction.
Furnish and Install FS-ONE MAX System No. W-J-7124
Max. 20” spiral duct or 12” sheet metal duct (w/o damper) with 1-1/2” thick glass fiber duct insulation (AS=1/4” to 1”)



- Photo 15 – Corridor D1: Seal duct penetrations in 20-minute masonry wall construction.
Furnish and Install FS-ONE MAX System No. W-J-7124
Max. 20” spiral duct or 12” sheet metal duct (w/o damper) with 1-1/2” thick glass fiber duct insulation (AS=1/4” to 1”)



- Photo 16 – Corridor D1: Seal duct penetrations in 20-minute masonry wall construction.
Furnish and Install FS-ONE MAX System No. W-J-7124
Max. 20” spiral duct or 12” sheet metal duct (w/o damper) with 1-1/2” thick glass fiber duct insulation (AS=1/4” to 1”)



- Photo 17 – Corridor E1: Seal duct penetrations in 20-minute masonry wall construction.
Furnish and Install FS-ONE MAX, CP 606, CFS-S SIL GG System No. W-J-7021
Max. 48” x 24” sheet metal duct w/o damper (AS=0” to 2”)



- Photo 18 – Corridor E1: Seal duct penetrations in 20-minute masonry wall construction.
Furnish and Install FS-ONE MAX System No. W-J-7124
Max. 20” spiral duct or 12” sheet metal duct (w/o damper) with 1-1/2” thick glass fiber duct insulation (AS=1/4” to 1”)

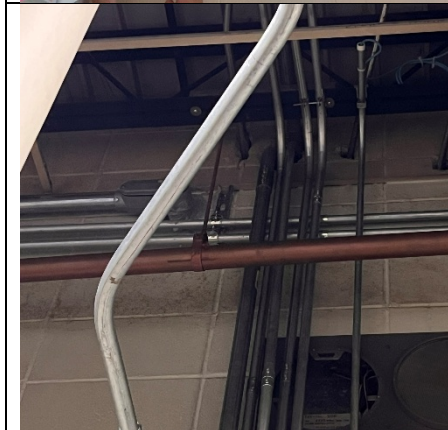


- Photo 19 – Corridor E1: Seal duct penetrations in 20-minute masonry wall construction.
Furnish and Install FS-ONE MAX System No. W-J-7124

Max. 20” spiral duct or 12” sheet metal duct (w/o damper) with 1-1/2” thick glass fiber duct insulation (AS=1/4” to 1”)



- Photo 20 – Corridor A3: Seal penetration in 2-hour CMU wall construction.
Install System No. W-J-3074 w/ Firestop Block. Refer to specification section Allowances for Allowance in this area.



- Photo 21 – Custodian’s Room: Seal penetrations in 1-hour masonry wall construction.

Max. 2” steel pipe with max. 1” glass fiber insulation, Furnish and Install System No. C-AJ-5048 at existing steel pipes – 5 locations at the top of wall.



- Photo 22 – Boiler Room: 1-hour fire stopping penetrations in masonry wall construction. Furnish and install Fire Foam, System No. W-J-8016

Insulated or non-insulated steel, cast iron, copper, conduit or EMT pipes, flexible metal conduit or cables (single or bundled) (AS varies)



- Photo 23 – Storage Room, Refer to Photo 39: Seal penetration in 2-hour CMU wall construction. Install System No. W-J-3074 w/ Firestop Block. Roof drain piping to be moved to avoid rated wall construction. Roof drain piping to be completed under a separate contract, coordinate location of drain piping to avoid conflict with rated wall construction.



- Photo 24 – Storage Room, Refer to Photo 38: Seal top of wall at storage room for a smoke barrier wall construction. Furnish and Install Hilti CP-506-Smoke-and-Acoustic-Sealant at top of wall joint.

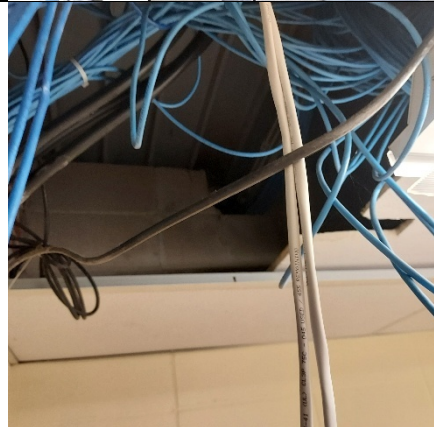


- Photo 25 – Storage Room Door: Furnish and install a new hollow metal door transom to provide a 20-minute fire rated barrier. Prime & paint transom to match door frame.



- Photo 26 – Corridor A4: At existing 2-hour fire separation wall. Furnish and install FS-ONE MAX System No. W-L-8065. Remove and replace all installations at this wall location to provide a listed 2-hour fire barrier.

Insulated or non-insulated metallic, nonmetallic pipes, and cable bundle
(AS varies) 1 or 2 Hr



- Photo 27 – Corridor B1: Seal penetration in 20-minute CMU wall construction. Furnish and install System No. FM 591 w/ CP 618



- Photo 28 – Corridor A5: Remove existing wood framing in ceiling space & provide fire rated wood framing, or metal framing to eliminate combustibles in ceiling space.



- Photo 29 – Corridor A5: Seal penetration in 20-minute CMU wall construction. Install System No. FM 591 w/ CP 618



- Photo 30 – Corridor C1: Seal penetration at ductwork in 1-hour rated CMU wall construction.
Furnish and install System No. W-J-7021 with FS-ONE MAX, CP 606, CFS-S SIL GG
Max. 48" x 24" sheet metal duct w/o damper (AS=0" to 2") 1 or 2 Hr



- Photo 31 – Corridor B1: Seal penetration in 20-minute CMU wall construction.
Furnish and install System No. FM 591 w/ CP 618



- Photo 32 – Boiler Room: 1-hour fire stopping penetrations in masonry wall construction. Furnish and install Fire Foam, System No. W-J-8016

Insulated or non-insulated steel, cast iron, copper, conduit or EMT pipes, flexible metal conduit or cables (single or bundled) (AS varies)



- Photo 33 – Boiler Room: 1-hour fire stopping penetrations in masonry wall construction. Furnish and install Fire Foam, System No. W-J-8016

Insulated or non-insulated steel, cast iron, copper, conduit or EMT pipes, flexible metal conduit or cables (single or bundled) (AS varies)



- Photo 34 – Boiler Room: 1-hour fire stopping penetrations in masonry wall construction. Furnish and install Fire Foam, System No. W-J-8016

Insulated or non-insulated steel, cast iron, copper, conduit or EMT pipes, flexible metal conduit or cables (single or bundled) (AS varies)



- Photo 35 – Boiler Room, Refer to Photo 21: Seal penetrations in 1-hour masonry wall construction.

Max. 2" steel pipe with max. 1" glass fiber insulation, Furnish and Install System No. C-AJ-5048 at existing steel pipes – 5 locations at the top of wall.



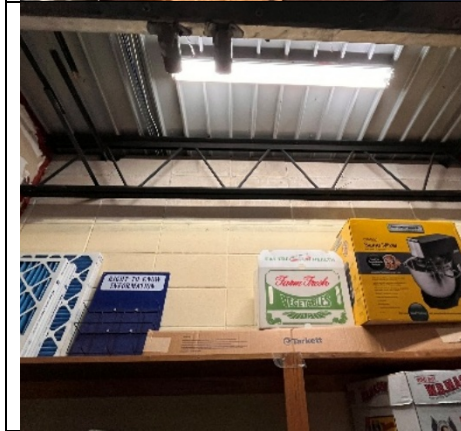
- Photo 36 – Custodian’s Room: 1-hour fire stopping penetrations in masonry wall construction. Furnish and install Fire Foam, System No. W-J-8016

Insulated or non-insulated steel, cast iron, copper, conduit or EMT pipes, flexible metal conduit or cables (single or bundled) (AS varies)



- Photo 37 – Custodian’s Room: Custodian’s Room: 1-hour fire stopping penetrations in masonry wall construction. Furnish and install Fire Foam, System No. W-J-8016

Insulated or non-insulated steel, cast iron, copper, conduit or EMT pipes, flexible metal conduit or cables (single or bundled) (AS varies)



- Photo 38 – Storage Room: Seal top of wall at storage room for a smoke barrier wall construction. Furnish and Install Hilti CP-506-Smoke-and-Acoustic-Sealant at top of wall joint.



- Photo 39 – Storage Room: Seal penetration in 2-hour CMU wall construction. Install System No. W-J-3074 w/ Firestop Block. Roof drain piping to be moved to avoid rated wall construction. Roof drain piping to be completed under a separate contract, coordinate location of drain piping to avoid conflict with rated wall construction.



- Photo 40 – Math Lab: Seal penetrations in 2-hour CMU wall construction. Refer to specification section Allowances for this area.

Furnish and install Fire Foam System No. C-AJ-8096

Insulated or non-insulated copper or steel, cables (single or bundled), or flexible steel conduit (included Hollow Core) (AS varies)



- Photo 41 – Math Lab: Seal penetrations in 2-hour CMU wall construction. Refer to specification section Allowances for this area.

Furnish and install Fire Foam System No. C-AJ-8096

Insulated or non-insulated steel, cast iron, copper, conduit or EMT pipes, flexible metal conduit or cables (single or bundled) (AS varies)

Date: 12/08/2025

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.

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.

1.4 INFORMATIONAL SUBMITTALS

- A. Sample Warranties: For special warranties.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.
- B. Product Testing: Test joint sealants using a qualified testing agency.
 - 1. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

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 (5 deg C).
 - 2. When joint substrates are wet.

3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.7 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 years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Five years from date of Substantial Completion.
- C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
 1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
 2. Disintegration of joint substrates from 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 MATERIALS, 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.

2.2 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

- B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- C. Single-Component Neutral-Curing Silicone Sealant:
 - 1. Products:
 - a. Dow Corning Corporation; 799.
 - b. GE Silicones; UltraGlaze SSG4000.
 - c. Tremco; Tremsil 600.
 - 2. Type and Grade: S (single component) and NS (nonsag).
 - 3. Class: 25.

2.3 JOINT-SEALANT BACKING

- A. General: Provide sealant backings of material and type 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. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 26 deg F. Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and to otherwise contribute to optimum sealant performance.

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. CMU
 - 3. 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. 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 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.

3.4 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

END OF SECTION 079200

SECTION 092116 - GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor, Subcontractors, and/or suppliers providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Non-load-bearing steel framing members for the following applications:
 - a. Interior framing systems (e.g., supports for partition walls).
 - 2. Interior gypsum board.
- B. Related Sections include the following:
 - 1. Division 06 Section "Miscellaneous Rough Carpentry" for wood blocking built into gypsum board assemblies.
 - 2. Division 07 Section "Thermal Insulation" for sound attenuation insulation installed in assemblies that incorporate gypsum board.
 - 3. Division 09 Section "Painting" for primers applied to gypsum board surfaces.
- C. Products installed, but not furnished, under this Section include the following:
 - 1. Access doors and frames, furnished by Fire Protection, Plumbing, Mechanical, and Electrical Subcontractors in accordance with Division 08 Section "Access Doors and Frames."

1.3 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide interior non-load-bearing metal framing capable of withstanding design loads within limits and under conditions indicated.
 - 1. Design Loads: In accordance with the Connecticut State Building Code.
 - 2. Deflection Limits: Design framing systems to withstand design loads without deflections greater than the following:

- a. Interior Framing Systems:
 - 1) Maximum Deflection: $L/240$ at 5 psf, stud spacing at 16 inches o.c.
 3. Design framing systems to provide for movement of framing members without damage or overstressing, sheathing failure, connection failure, undue strain on fasteners and anchors, or other detrimental effects when subject to a maximum ambient temperature change of 120 deg F.
 4. Design framing system to maintain clearances at openings, to allow for construction tolerances, and to accommodate live load deflection of primary building structure as follows:
 - a. Upward and downward movement of $3/4$ inch.
- B. Cold-Formed Steel Framing, General: Design according to AISI's "Standard for Cold-Formed Steel Framing - General Provisions."
 1. Provide interior framing systems sized to accommodate maximum deflection using limiting heights of metal studs without contribution of gypsum wallboard (non-composite).

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show layout, spacings, sizes, thicknesses, and types of cold-formed metal framing; fabrication; and fastening and anchorage details, including mechanical fasteners. Show reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining work.
 1. For non-load-bearing metal framing indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer licensed in the State of Connecticut responsible for their preparation.
 2. Include calculations for span capabilities of cold-formed metal framing for deflection criteria specified.
- C. Samples: For the following products:
 1. Trim Accessories: Full-size Sample in 12-inch- long length for each trim accessory indicated.
- D. Qualification Data: For professional engineer.
- E. Product Test Reports: From a qualified testing agency, unless otherwise stated, indicating that each of the following complies with requirements, based on evaluation of comprehensive tests for current products:
 1. Steel sheet.

2. Expansion anchors.
3. Power-actuated anchors.
4. Mechanical fasteners.

F. Research/Evaluation Reports: For cold-formed metal framing.

1.5 QUALITY ASSURANCE

- A. Engineering Responsibility: Preparation of Shop Drawings, design calculations, and other structural data by a qualified professional engineer.
- B. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the State of Connecticut and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of cold-formed metal framing that are similar to those indicated for this Project in material, design, and extent.
- C. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, qualified according to ASTM E 329 to conduct the testing indicated.
- D. Product Tests: Mill certificates or data from a qualified independent testing agency indicating steel sheet complies with requirements, including base-metal thickness, yield strength, tensile strength, total elongation, chemical requirements, and metallic-coating thickness.
- E. AISI Specifications and Standards: Comply with AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members" and its "Standard for Cold-Formed Steel Framing - General Provisions."
- F. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- G. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.
- H. Mockups: Before beginning gypsum board installation, install mockups of at least 100 sq. ft. in surface area to demonstrate aesthetic effects and set quality standards for materials and execution.
 1. Install mockups for the following:
 - a. Each level of 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. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect cold-formed metal framing from corrosion, deformation, and other damage during delivery, storage, and handling.
- B. Store cold-formed metal framing, protect with a waterproof covering, and ventilate to avoid condensation.
- C. Store materials inside under cover and keep them dry and protected against damage from weather, condensation, direct sunlight, construction traffic, and other causes. Stack gypsum panels flat to prevent sagging.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- B. Do not install interior products until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, those that are moisture damaged, and those that are 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.

PART 2 - PRODUCTS

2.1 COLD-FORMED STEEL FRAMING, GENERAL

- A. Manufacturers: Subject to compliance with requirements, provide cold-formed metal framing by one of the following:
 1. ClarkDietrich Building Systems.
 2. MarinoWare; a division of Ware Industries.
 3. SCAFCO Steel Stud Company.

2.2 INTERIOR NON-LOAD-BEARING STEEL FRAMING

- A. Interior Framing Members, General: Comply with ASTM C 645 for conditions indicated.

1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated.
 2. Protective Coating: Comply with ASTM C 645; roll-formed from hot-dipped galvanized steel; complying with ASTM A 1003/A 1003M and ASTM A 653/A 653M G40 or having a coating that provides equivalent corrosion resistance. A40 galvanized products are not acceptable.
 - a. Coatings shall demonstrate equivalent corrosion resistance with an evaluation report acceptable to the authority having jurisdiction.
- B. Steel Studs and Runners: ASTM C 645.
1. Non-Structural Studs: Cold-formed galvanized steel C-studs as per ASTM C 645 for conditions indicated below:
 - a. Flange Size: 1-1/4-inch.
 - b. Web Depth: As indicated on Drawings.
 - 1) Minimum Thickness: 0.033 inch.
 - 2) Minimum Design Thickness: 0.0346 inch.
- C. Slip-Type Head Joints: Where indicated, provide the following:
1. Deflection Track: Slotted 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.
- D. Firestop Tracks: Top runner manufactured to allow partition heads to expand and contract with movement of the 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, provide one of the following:
 - a. ClarkDietrich Building Systems; BlazeFrame.
 - b. Fire Trak Corp.; Fire Trak attached to studs with Fire Trak Posi Clips.
 - c. Metal-Lite, Inc.; The System.
 - d. Sliptrack Systems; SLP-TRK.
- E. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
1. Minimum Design Thickness: 0.018 inch.
 2. Depth: 7/8 inch.

2.3 INTERIOR GYPSUM BOARD

- A. General: Complying with ASTM C 36 or ASTM C 1396, as applicable to type of gypsum board indicated and whichever is more stringent.
- B. Size: Provide in maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.
- C. Abuse-Resistant and Moisture- and Mold-Resistant Gypsum Board: Manufactured to produce greater resistance to surface indentation and abrasion than standard, regular-type and Type X gypsum board.
1. Core: 5/8 inch, Type X.
 2. Long Edges: Tapered.
 3. Mold Resistance: ASTM D 3273, score of 10.
 4. Abuse-Resistant Performance: Comply with ASTM C 1629 and the following:
 - a. Surface Abrasion: ASTM D 4977 modified with 25 lbs of additional weight, 0.059" maximum (Level 2 minimum).
 - b. Surface Indentation: ASTM D 5420, 0.10" maximum (Level 1).
 - c. Soft-Body Impact: ASTM E 695, surface failure at 195 ft.-lbs minimum (Level 2).
 - d. Hard-Body Impact: ASTM E 1629 Annex A.1, surface failure at 50 ft.-lbs minimum (Level 1).
 5. Products: Subject to compliance with requirements, provide one of the following:
 - a. CertainTeed; AirRenew Extreme Abuse Resistant Gypsum Board.
 - b. Continental Building Products; Protecta AR 100.
 - c. National Gypsum Company; Gold Bond Hi-Abuse Brand XP Gypsum Board.
 - d. USG Corporation; Mold Tough AR Panels.
- D. Impact-Resistant and Moisture- and Mold-Resistant Gypsum Board: Manufactured to produce greater resistance to surface indentation and abrasion than standard, regular-type and Type X gypsum board, with a fiberglass mesh core.
1. Core: 5/8 inch, Type X.
 2. Long Edges: Tapered.
 3. Mold Resistance: ASTM D 3273, score of 10.
 4. Abuse-Resistant Performance: Comply with ASTM C 1629 as follows:
 - a. Surface Abrasion: Level 3.
 - b. Surface Indentation: Level 1.
 - c. Soft-Body Impact: Level 3.
 - d. Hard-Body Impact: Level 3.
 5. Products: Subject to compliance with requirements, provide one of the following:
 - a. CertainTeed; AirRenew Extreme Impact Resistant Gypsum Board.

- b. Continental Building Products; Protecta HIR 300.
- c. National Gypsum Company; Gold Bond Hi-Impact XP Gypsum Board.
- d. USG Corporation; Mold Tough VHI Abuse-Resistant Interior Panels.

2.4 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

- 1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet.
- 2. Shapes:
 - a. Cornerbead.
 - b. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - c. U-Bead: J-shaped; exposed short flange does not receive joint compound.
 - d. Expansion (control) joint.

2.5 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:

- 1. Interior Gypsum Wallboard: Paper.

C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

- 1. Prefilling: At open joints 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.

2.6 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.

B. Sound Attenuation Blankets: As specified in Division 07 Section "Thermal Insulation."

1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
 - C. Acoustical Sealant: As specified in Division 07 Section "Joint Sealants."
- 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. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.
 - B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
 1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.

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.
- 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. Commencement of work indicates acceptance of areas and substrates.

3.2 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754, except comply with framing sizes and spacing indicated.
 1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.
- B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- C. Install bracing at terminations in assemblies.
- D. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.3 INTERIOR NON-LOAD-BEARING WALL INSTALLATION

- A. Install studs so flanges within framing system point in same direction.
 - 1. Space studs for all applications at 16 inches o.c., unless otherwise indicated.
- B. Install tracks (runners) 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 penetrating 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 runner track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb, unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint in finished assembly.
 - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
 - 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.
 - 5. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.
- C. Direct Furring:
 - 1. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.
- D. 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 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.

- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. 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.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. 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.
- E. Form control and expansion joints with space between edges of adjoining gypsum panels.
- F. 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.
- G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. 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.
- H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- I. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.

3.5 APPLYING INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 - 1. Abuse-Resistant Type: Typical, walls.
 - 2. Impact Resistant Type: Walls, Lower Level Passage 013AC.
 - 3. Glass-Mat, Water-Resistant Backing Board: At all locations indicated to receive tile, furnished and installed by Division 09 Section "Tiling."

B. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing, unless otherwise indicated.
2. On partitions/walls, apply gypsum panels either vertically (parallel to framing) or horizontally (perpendicular 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.
 - b. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.
3. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

C. Multilayer Application:

1. On ceilings, apply gypsum board indicated for base layers before applying face layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints 1 framing member, 16 inches minimum, from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly.
2. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.
3. Fastening Methods: Fasten base layers and face layers separately to supports with screws.

3.6 INSTALLING 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 at locations indicated on Drawings, or if not indicated, according to ASTM C 840 and in specific locations approved by Architect for visual effect.
- C. Interior Trim: Install in the following locations:
 1. Cornerbead: Use at outside corners.
 2. LC-Bead: Use at exposed panel edges.

3.7 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 those with trim having flanges not intended for tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
 - 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.

3.8 PROTECTION

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- B. 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 09 21 16

SECTION 095113 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor, Subcontractors, and/or suppliers providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SUMMARY

- A. Section includes:
 - 1. Acoustical panels and exposed suspension systems.
- B. Related Sections include the following:
 - 1. Division 07 Section "Joint Sealants" for acoustical sealants furnished and installed by this Section in acoustical panel ceiling assemblies.

1.3 DEFINITIONS

- A. CAC: Ceiling Attenuation Class.
- B. LR: Light Reflectance coefficient.
- C. NRC: Noise Reduction Coefficient.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of size 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 12-inch- long Samples of each type, finish, and color.

- C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each acoustical panel ceiling.
- D. Research/Evaluation Reports: For each acoustical panel ceiling and components.
- E. Maintenance Data: For finishes to include in maintenance manuals.
- F. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

- A. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- B. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical panels, suspension system components, and accessories to Project site in original, unopened packages 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 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weatherproof, 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.

1.8 COORDINATION

- A. Coordinate layout and installation of acoustical panels and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, and partition assemblies.

1.9 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Acoustical Ceiling Panels: Full-size panels equal to 2 percent of quantity installed, for each ceiling panel type.
 - 2. Suspension System Components: Quantity of each exposed component equal to 2 percent of quantity installed, for each suspension system type.

1.10 WARRANTY

- A. Special Warranty for Acoustical Panel Ceilings and Suspension Systems: Manufacturer's standard form in which manufacturer agrees to replace acoustical panel ceilings and suspension systems that fail in materials or workmanship within specified warranty period.
 - 1. Failure of ceiling panels includes sagging and warping, and growth of mold, mildew and stain causing bacteria.
 - 2. Failure of suspension systems includes rusting.
 - 3. Warranty does not cover damages that may occur from vibrations, fire, water, freezing temperatures, accident or any form of abuse or exposure to abnormal conditions.
 - 4. Warranty Period: 30 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Acoustical ceiling shall withstand the effects of earthquake motions determined according to ASCE/SEI 7 and the Connecticut State Building Code.
- B. 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: 450 or less.

2.2 ACOUSTICAL PANELS, GENERAL

- A. Source Limitations: Obtain each type of acoustical ceiling panel and supporting suspension system from single source from single manufacturer.
- B. Glass-Fiber-Based Panels: Made with binder containing no urea formaldehyde.

- C. Acoustical Panel Standard: Provide manufacturer's standard panels of configuration indicated that comply with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectances, unless otherwise indicated.
 - 1. Mounting Method for Measuring NRC: Type E-400; plenum mounting in which face of test specimen is 15-3/4 inches away from test surface per ASTM E 795.
- D. Antimicrobial Fungicide Treatment: Provide acoustical panels with face and back surfaces coated with antimicrobial treatment consisting of manufacturer's standard formulation with fungicide added to inhibit growth of mold and mildew and showing no mold or mildew growth when tested according to ASTM D 3273 and evaluated according to ASTM D 3274 or ASTM G 21.

2.3 ACOUSTICAL PANELS FOR ACOUSTICAL PANEL CEILING

- A. Basis-of-Design Product: Subject to compliance with requirements, provide products as indicated by **Armstrong World Industries, Inc.** or a comparable product by one of the following:
 - 1. CertainTeed, Inc.
 - 2. Rockfon.
 - 3. USG Interiors, Inc.
- B. Classification: Provide panels complying with ASTM E 1264 for type, form, and pattern as follows:
 - 1. **Ceiling Type:**
 - a. Basis of Design Product: **Armstrong World Industries, Inc.; Cortega #769.**
 - 1) Type and Form: Type III, mineral base with painted finish; Form 2, water felted.
 - 2) Pattern: CD (perforated, small holes and fissured).
 - 3) Color: White.
 - 4) LR: Not less than 0.82.
 - 5) NRC: Not less than 0.75.
 - 6) CAC: Not less than 35.
 - 7) Fire Rating: Class A.
 - 8) Edge/Joint Detail: Square.
 - 9) Thickness: 5/8 inch.
 - 10) Modular Size: 24 by 48 inches.
 - 11) Antimicrobial Treatment: BioBlock + and HumiGuard Plus.
- C. Broad Spectrum Antimicrobial Fungicide and Bactericide Treatment: Provide acoustical panels treated with manufacturer's standard antimicrobial formulation that inhibits fungus, mold, mildew, and gram-positive and gram-negative bacteria and showing no mold, mildew, or bacterial growth when tested according to ASTM D 3273 and evaluated according to ASTM D 3274 or ASTM G 21.

2.4 METAL SUSPENSION SYSTEMS, GENERAL

- A. Metal Suspension System Standard: Provide manufacturer's standard direct-hung metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable requirements in ASTM C 635.
- B. Finishes and Colors, General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes. Provide manufacturer's standard factory-applied finish for type of system indicated.
- C. Attachment Devices: Size for five times the design load indicated in ASTM C 635, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
- D. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:
 - 1. Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
 - 2. Size: Select wire diameter so its stress at 3 times hanger design load (ASTM C 635, Table 1, "Direct Hung") will be less than yield stress of wire, but provide not less than 0.106-inch- diameter wire.
- E. Hanger Rods: Mild steel, zinc coated or protected with rust-inhibitive paint.
- F. Seismic Stabilizer Bars: Manufacturer's standard perimeter stabilizers designed to accommodate seismic forces.
- G. Seismic Struts: Manufacturer's standard compression struts designed to accommodate seismic forces.
- H. Seismic Clips: Manufacturer's standard seismic clips designed and spaced to secure acoustical panels in-place.

2.5 METAL SUSPENSION SYSTEM FOR ACOUSTICAL PANEL CEILING

- A. Wide-Face, Capped, Double-Web, Hot-Dip Galvanized, G30, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet, hot-dip galvanized according to ASTM A 653/A 653M, G30 coating designation, with prefinished, cold-rolled, 15/16-inch- wide, metal caps on flanges.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide **Armstrong World Industries, Inc.; Prelude XL 15/16" Exposed Tee System** or a comparable product by one of the following:
 - a. CertainTeed; 15/16" Classic Stab System.
 - b. Rockfon/Chicago Metallic; 15/16" Suspension.
 - c. USG Interiors, Inc.; Donn DX/DXL.
 - 2. Structural Classification: Intermediate duty system.
 - 3. Face Design: Flat, flush.

4. Face Finish: White, typical.

2.6 METAL EDGE MOLDINGS AND TRIM

- A. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension system runners.
 1. Provide manufacturer's standard edge moldings that fit acoustical panel edge details and suspension systems indicated and that match width and configuration of exposed runners, unless otherwise indicated.

2.7 ACOUSTICAL SEALANT

- A. Products: Comply with Division 07 Section "Joint Sealants."

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.
 1. 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, and comply with layout shown on reflected ceiling plans.

3.3 INSTALLATION

- A. General: Install acoustical panel ceilings to comply with ASTM C 636 and seismic design requirements indicated, per manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."
- B. Suspend ceiling hangers from building's structural members and as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
 2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
 4. Secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
 5. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure and appropriate for both structure to which hangers are attached and type of hanger involved. Install hangers in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.
 6. Do not support ceilings directly from permanent metal forms or floor deck. Fasten hangers to cast-in-place hanger inserts, postinstalled mechanical or adhesive anchors, or power-actuated fasteners that extend through forms into concrete.
 7. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
 8. Do not attach hangers to steel deck tabs.
 9. Do not attach hangers to steel roof deck. Attach hangers to structural members.
 10. Space hangers not more than 48 inches o.c. along each member supported directly from hangers unless otherwise indicated; provide hangers not more than 8 inches from ends of each member.
 11. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.
- C. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs. Fasten bracing wires into concrete with cast-in-place or postinstalled anchors.
- D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels.
1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
 2. Screw attach moldings to substrate at intervals not more than 16 inches o.c. and not more than 3 inches from ends, leveling with ceiling suspension system to a tolerance of 1/8 inch in 12 feet. Miter corners accurately and connect securely.
 - a. Install moldings in one piece at all walls 12 feet or less in length. Minimize quantity of pieces at longer walls.

- b. Use factory edges where joining lengths of molding. Abut moldings where joined; do not overlap.
- 3. Do not use exposed fasteners, including pop rivets, on moldings and trim.
- E. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- F. Install acoustical panels with undamaged edges and fit accurately into suspension system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide a neat, precise fit.
 - 1. For square-edged panels, install panels with edges fully hidden from view by flanges of suspension system runners and moldings.
 - 2. Install hold-down clips in areas indicated.

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. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 09 51 13

SECTION 099123 – INTERIOR PAINTING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Interior high-performance paint and coatings systems including surface preparation.

1.2 RELATED SECTIONS

- A. Section 092116 – Gypsum Board Assemblies.

1.3 SUMMARY

- A. This section includes the following:
 - 1. Interior coating system as shown on the contract drawings and in finish schedules.

1.4 REFERENCES

- A. Material Safety Data Sheets / Environmental Data Sheets: Per manufacturer's MSDS/EDS for specific VOCs (calculated per 40 CFR 59.406). VOCs may vary by base and sheen.
- B. South Coast Air Quality Management District (SCAQMD): Rule 1113 - Architectural Coatings.
- C. Green Seal, Inc.:
 - 1. GS-11 Standard for Paints and Coatings (1st Edition, May 20,1993).
 - 2. GC-03 - Environmental Criteria for Anti-Corrosive Paints.
- D. United States Green Building Council (USGBC): LEED-09 NC/CI/CS.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: For each paint system indicated, including.
 - 1. Product characteristics.
 - 2. Surface preparation instructions and recommendations.
 - 3. Primer requirements and finish specification.
 - 4. Storage and handling requirements and recommendations.
 - 5. Application methods.
 - 6. Cautions for storage, handling and installation.
- C. Selection Samples: Submit a complete set of color chips that represent the full range of manufacturer's products, colors and sheens available.
- D. Verification Samples: For each finish product specified, submit samples that represent actual product, color, and sheen.
- E. Only submit complying products based on project requirements (i.e. LEED). One must also comply with the regulations regarding VOCs (CARB, OTC, SCAQMD, LADCO). To ensure

compliance with district regulations and other rules, businesses that perform coating activities should contact the local district in each area where the coating will be used.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- B. Paint exposed surfaces. If a color of finish, or a surface is not specifically mentioned, Architect will select from standard products, colors and sheens available.
- C. Do not paint concealed surfaces, operating parts, and labels unless indicated.
- D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish surfaces for verification of products, colors and sheens.
 - 2. Finish area designated by Architect.
 - 3. Provide samples that designate primer and finish coats.
 - 4. Do not proceed with remaining work until the Architect approves the mock-up.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver manufacturer's unopened containers to the work site. Packaging shall bear the manufacturer's name, label, and the following list of information.
 - 1. Product name, and type (description).
 - 2. Application and use instructions.
 - 3. Surface preparation.
 - 4. VOC content.
 - 5. Environmental handling.
 - 6. Batch date.
 - 7. Color number.
- B. Storage: Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
- C. Store materials in an area that is within the acceptable temperature range, per manufacturer's instructions. Protect from freezing.
- D. Handling: Maintain a clean, dry storage area, to prevent contamination or damage to the coatings.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.9 EXTRA MATERIALS

- A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.
- B. Furnish Owner with an additional one percent of each material and color, but not less than 1 gal (3.8 l) or 1 case, as appropriate.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design Acceptable Manufacturer: Sherwin-Williams, which is located at: 101 Prospect Ave.; Cleveland, OH 44115; Toll Free Tel: 800-524-5979; Tel: 216-566-2000; Fax: 440-826-1989; Email: request info specifications@sherwin.com; Web:www.swspecs.com.

Other Acceptable Manufacturers:

- 1. PPG Industries
- 2. Benjamin Moore

2.2 APPLICATIONS/SCOPE

- A. Interior High Performance Paints and Coatings:
 - 1. Drywall: Drywall board, Gypsum board
 - 2. Plaster: Ceilings.

2.3 PAINT MATERIALS - GENERAL

- A. Paints and Coatings:
 - 1. Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
 - 2. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color. Or follow manufactures product instructions for optimal color conformance.
- B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
- C. Coating Application Accessories: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required, per manufacturer's specifications.
- D. Color: Paint to match existing, adjacent unless otherwise noted. Owner to confirm existing attic stock for use or match.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared; notify Architect of unsatisfactory conditions before proceeding. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- B. Proceed with work only after conditions have been corrected and approved by all parties, otherwise application of coatings will be considered as an acceptance of surface conditions.
- C. Previously Painted Surfaces: Verify that existing painted surfaces do not contain lead based paints, notify Architect immediately if lead based paints are encountered.

3.2 SURFACE PREPARATION

- A. General: Surfaces shall be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good adhesion.
 - 1. Prior to attempting to remove mildew, it is recommended to test any cleaner on a small, inconspicuous area prior to use. Bleach and bleaching type cleaners may damage or discolor existing paint films. Bleach alternative cleaning solutions are advised.
 - 2. Remove mildew before painting by washing with a solution of 1 part liquid household bleach and 3 parts of warm water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry before painting. Wear protective glasses or goggles, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/water solution.
 - 3. Remove items including but not limited to thermostats, electrical outlets, switch covers and similar items prior to painting. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
 - 4. No exterior painting should be done immediately after a rain, during foggy weather, when rain is predicted, or when the temperature is below 50 degrees F (10 degrees C), unless products are designed specifically for these conditions. On large expanses of metal siding, the air, surface and material temperatures must be 50 degrees F (10 degrees F) or higher to use low temperature products.
- B. Drywall - Interior: Must be clean and dry. All nail heads must be set and spackled. Joints must be taped and covered with a joint compound. Spackled nail heads and tape joints must be sanded smooth and all dust removed prior to painting.

3.3 INSTALLATION

- A. Apply all coatings and materials with the manufacturer's specifications in mind. Mix and thin coatings according to manufacturer's recommendations.

- B. Do not apply to wet or damp surfaces. Wait at least 30 days before applying to new concrete or masonry. Or follow manufacturer's procedures to apply appropriate coatings prior to 30 days. Test new concrete for moisture content. Wait until wood is fully dry after rain or morning fog or dew.
- C. Apply coatings using methods recommended by manufacturer.
- D. Uniformly apply coatings without runs, drips, or sags, without brush marks, and with consistent sheen.
- E. Apply coatings at spreading rate required to achieve the manufacturers recommended dry film thickness.
- F. Regardless of number of coats specified, apply as many coats as necessary for complete hide, and uniform appearance.
- G. Inspection: The coated surface must be inspected and approved by the Architect just prior to the application of each coat.

3.4 PROTECTION

- A. Protect finished coatings from damage until completion of project.
- B. Touch-up damaged coatings after substantial completion, following manufacturer's recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

END OF SECTION

SECTION 260500 - ELECTRICAL GENERAL CONDITIONS

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 DESCRIPTION

- A. Related Work Specified Elsewhere:

1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
2. Temporary Facilities and controls are specified in Section 01 50 00. Cooperate in ensuring adequate protection.
3. General material, equipment and workmanship standards are specified in Section 01 60 00.
4. Finished painting is specified in section 09 91 00.
5. Access doors and panels to be installed in finished surfaces are specified in Section 08 31 13.
6. Cutting and patching, chases, furred spaces, trenches, covers, pits, foundations and other construction required in conjunction with the work under this Division is specified in Section 01 73 29.

1.3 DRAWINGS AND COORDINATION

- A. It is not the intention of the drawings to show every item, piece of equipment and detail. Provide complete, operating systems.
- B. Install work as closely as possible to layouts shown on drawings. Modify work as necessary to meet job conditions and to clear other equipment. Consult Architect before making changes which affect the function or appearance of systems.
- C. Dimensions, elevations and locations are shown approximately. Verify actual conditions in the field.
- D. Owner, Architect, and Engineer reserve the right to order changes in layout of such items as switches, receptacles, and fixtures if such changes do not substantially affect costs and if affected items have not been fabricated or installed.

- E. In some cases, drawings are based upon products of one or several manufactures as listed on the Contract Documents. This contractor shall be responsible for modifications made necessary by substitution of products of different manufacturers.
- F. Do not install part of a system until all critical components of the system and related systems have been approved. Coordinate parts of systems to ensure proper operation of the entire system.
- G. Install products in accordance with manufacturer's written instructions. Notify Engineer if Contract Documents conflict with manufacturer's instructions. Comply with Engineers interpretations.
- H. Provide brackets, supports, anchors and frames required for installation of work specified herein.

1.4 CODES AND STANDARDS

- A. The Codes and Standards listed below apply to all Work. Where Codes or Standards are mentioned in these Specifications, follow the latest edition or revision.
- B. The current adopted editions of the following State or local Codes apply:
 - 1. 2022 Connecticut State Building Code
 - 2. 2021 International Building Code
 - 3. 2021 International Existing Building Code
 - 4. 2021 International Mechanical Code
 - 5. 2021 International Plumbing Code
 - 6. 202 National Electrical Code (NFPA 70)
 - 7. 2021 International Energy Conservation Code
 - 8. ICC/ANSI A117.1-2017 Accessible and Usable Buildings and Facilities
- C. All materials furnished and all work installed shall comply with the rules and recommendations of the NFPA, the requirements of the local utility companies, the recommendations of the fire insurance rating organization having jurisdiction and the requirements of all Governmental departments having jurisdiction.
- D. Include in the Work, without extra cost to the Owner, any labor, materials, testing, services, apparatus and Drawings in order to comply with all applicable laws, ordinances, rules and regulations, whether or not shown on Drawings and/or specified.

1.5 PERMITS AND FEES

- A. Give all necessary notices, obtain all permits; pay all Government and State sales taxes and fees where applicable, and other costs, including utility connections or extensions in connection with the Work. File all necessary Drawings, prepare all Documents and obtain all necessary approvals of all Governmental and State departments having jurisdiction, obtain all required certificates of inspections for Work and deliver a copy to the Engineer before request for acceptance and final payment for the Work.

1.6 REFERENCES

- A. FM P7825 - Approval Guide; Factory Mutual Research Corporation; current edition.
- B. NEMA MG 1 - Motors and Generators; National Electrical Manufacturers Association; 1993 (and Revision 1,2,3).
- C. NEMA ICS 6 - National Electrical Manufacturers Association; 1993 Enclosures for Industrial Control and Systems
- D. NEMA MG 10 - National Electrical Manufacturers Association; 1983; (R 1988) Energy Management Guide for Selection and Use of Polyphase Motors.
- E. NEMA MG 11 - National Electrical Manufacturers Association; 1977; (R 1992) Energy Management Guide of Selection and Use of Single-Phase Motors.
- F. NFPA 70 - National Electrical Code; National Fire Protection Association; 2020.
- G. SSPC-Paint 15 - Steel Joist Shop Paint; Society for Protective Coatings; 1991 (Part of Steel Structures Painting Manual, Vol. Two).
- H. IEEE 100 - 1992 Dictionary of Electrical and Electronics Terms.
- I. IBC 2021, Structural Loads, Seismic bracing and restraints.

1.7 DEFINITIONS

- A. Unless otherwise specified or indicated, electrical and electronics terms used in these specifications, and on the drawings, shall be as defined in IEEE 100.
- B. The technical sections referred to herein are those specification sections that describe products, installation procedures, and equipment operations and that refer to this section for detailed description of submittal types.
- C. The technical paragraphs referred to herein are those paragraphs in PART 2 - PRODUCTS and PART 3 - EXECUTION of the technical sections that describe products, systems, installation procedures, equipment, and test methods.

1.8 EQUIPMENT DEVIATIONS

- A. Where the Contractor proposes to deviate (substitute or provide an equivalent) from the equipment or materials as hereinafter specified, he shall do so by making a request in writing within 60 days from the Award of Contract. The Contractor shall state in his request whether it is a substitution or an equivalent to that specified, and the amount of credit involved. A copy of said request shall be included in the Base Bid with manufacturer's equipment cuts.
1. The Base Product Specification shall be based on using the materials and equipment as specified and scheduled with no exceptions. Equipment Manufacturers Scheduled on Drawings are considered Base Product Specification and any other acceptable manufacturers listed in the specifications is considered an equivalent manufacturer to the Base Product Specification. Unlisted manufacturers are considered a substitution and equipment deviation and subject to the requirements for equipment substitution and deviation. When any alternate manufacturer does not qualify acceptable, as determined by the Engineer, provide the Base Bid manufacturer at no additional cost to Owner.
 2. Where an equivalent manufacturer is listed in the specifications, it may or may not indicate that there is an equal product available. Any products must meet all criteria of the Base Product Specification as determined by the Engineer.
- B. Substitutions and Equipment Deviations will not be considered if they have a direct bearing on the changing or revising of Contract Documents or if it involves other Contractor's scope of work or thier equipment. Coordination with all trades is required and must be acceptable to all other involved Contractors.
- C. Substitutions may be considered for one of the following:
1. Substitution for Cause: Changes proposed by the Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of warranty terms.
 2. Substitutions for Convenience: Changes proposed by the Contractor or Owner that are not required in order to meet other Project requirements, but may offer advantage to either the Owner or Contractor.
- D. In these Specifications and on the accompanying Drawings, one or more makes of materials, apparatus or appliances may have been specified for use in this installation. This has been done for convenience in fixing the standard of workmanship, finish and design required for installation. In the event that only one (1) manufacturer of a product is specified and it is found that the manufacturer has discontinued the product, the Contractor shall use an acceptable equivalent product that meets the requirements of an equivalent product, as noted below, and has all the features of the originally specified product. The details of workmanship, finish and

design, and the guaranteed performance of any material, apparatus or appliance which the Contractor desires to deviate for those mentioned herein shall also conform to these standards.

- E. Where no specific make of material, apparatus or appliance is mentioned, any first-class product made by a reputable manufacturer may be submitted for the Engineer's review.
- F. Where two or more names are given as equivalents, the Contractor must use the specified item or one of the named equivalents. Where one name only is used and is followed by the words "or acceptable equivalent", the Contractor must use the item named or he may apply for an equipment deviation through the prescribed manner in accordance with this Specification.
- G. Equipment, material or devices submitted for review as an "accepted equivalent" shall meet the following requirements:
 - 1. The equivalent shall have the same construction features such as, but not limited to:
 - 2. Material thickness, gauge, weight, density, etc.
 - 3. Welded, riveted, bolted, etc., construction
 - 4. Finish, undercoatings, corrosion protection
 - 5. The equivalent shall perform with the same or better operating efficiency.
 - 6. The equivalent shall have equal or greater reserve capacity.
 - 7. The equivalent shall be locally represented by the manufacturer for service, parts and technical information.
 - 8. The equivalent shall bear the same labels of performance certification as is applicable to the specified item, such as AMCA or ARI labels.
- H. Where the Contractor proposes to use an item of equipment other than specified or detailed on the Drawings which requires any redesign of the structure, partitions, foundations, piping, wiring or any other part of the mechanical, electrical or architectural layout, all such redesign and all new drawings and detailing required therefore shall be prepared by the Designers of Record at the expense of the Contractor and at no additional cost to the Owner.
- I. Where such accepted deviation or substitution requires a different quantity and arrangement of piping, ductwork, valves, pumps, insulation, wiring, conduit and equipment from that specified or indicated on the Drawings, the Contractor shall, with the acceptance by the Engineer, furnish and install any such additional equipment required by the system at no additional cost to the Owner, including any costs added to other trades due to the substitution.

- J. The Engineer shall determine if an "accepted equivalent" to a manufacturer listed in the Specifications is considered acceptable.

1.9 SUBMITTALS

- A. See Section 01 33 00 - Administrative Requirements, for submittal procedures.
- B. Provide manufacturer's ORIGINAL printed product data, catalog cuts and description of any special installation procedures. Photocopied and/or illegible product data sheets shall not be acceptable. All product datasheets shall be highlighted or stamped with arrows to indicate the specific components being submitted for approval.
- C. Submittals shall include the manufacturer's name, trade name, place of manufacture, catalog model or number, nameplate data, size, layout dimensions, capacity, project specification and technical paragraph reference. Submittals shall also include applicable federal, military, industry, and technical society publication references, and years of satisfactory service, and other information necessary to establish contract compliance of each item to be provided. Photographs of existing installations are unacceptable and will be returned without approval.
- D. Submittals for each manufactured item shall be current manufacturer's descriptive literature of cataloged products, equipment drawings, diagrams, performance and characteristic curves, and catalog cuts. Handwritten and typed modifications and other notations not part of the manufacturer's preprinted data will result in the rejection of the submittal. Should manufacturer's data require supplemental information for clarification, the supplemental information shall be submitted as specified for certificates of compliance.
- E. Submit drawings a minimum of 14 inches by 20 inches in size using a minimum scale of 1/8 inch per foot except as specified otherwise. Include wiring diagrams and installation details of equipment indicating proposed location, layout and arrangement, control panels, accessories, piping, ductwork, and other items that must be shown to ensure a coordinated installation. Wiring diagrams shall identify circuit terminals and indicate the internal wiring for each item of equipment and the interconnection between each item of equipment. Drawings shall indicate adequate clearance for operation, maintenance, and replacement of operating equipment devices.
- F. Where installation procedures or part of the installation procedures are required to be in accordance with manufacturer's instructions, submit printed copies of those instructions prior to installation. Installation of the item shall not proceed until manufacturer's instructions are received. Failure to submit manufacturer's instructions shall be cause for rejection of the equipment or material.
- G. Submit manufacturer's certifications as required for products, materials, finishes, and equipment as specified in the technical sections. Certificates from material suppliers are not

acceptable. Preprinted certifications and copies of previously submitted documents will not be acceptable. The manufacturer's certifications shall name the appropriate products, equipment, or materials and the publication specified as controlling the quality of that item. Certification shall not contain statements to imply that the item does not meet requirements specified, such as "as good as"; "achieve the same end use and results as materials formulated in accordance with the referenced publications"; or "equal or exceed the service and performance of the specified material." Certifications shall simply state that the item conforms to the requirements specified. Certificates shall be printed on the manufacturer's letterhead and shall be signed by the manufacturer's official authorized to sign certificates of compliance.

- H. Where equipment or materials are specified to conform to industry and technical society reference standards of the organizations such as American National Standards Institute (ANSI), American Society for Testing and Materials (ASTM), National Electrical Manufacturers Association (NEMA), Underwriters Laboratories Inc. (UL), and Association of Edison Illuminating Companies (AEIC), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance.
- I. In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the Contracting Officer. The certificate shall state that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

1.10 QUALITY ASSURANCE

A. Material and Equipment Qualifications

- 1. Provide materials and equipment that are products of manufacturers regularly engaged in the production of such products which are of equal material, design and workmanship. Products shall have been in satisfactory commercial or industrial use for 2 years prior to bid opening. The 2-year period shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been on sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the 2-year period. Where two or more items of the same class of equipment are required, these items shall be products of a single manufacturer; however, the component parts of the item need not be the products of the same manufacturer unless stated in the technical section.

B. Regulatory Requirements

- 1. Equipment, materials, installation, and workmanship shall be in accordance with the mandatory and advisory provisions of NFPA 70.

C. Alternative Qualifications

1. Products having less than a 2-year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6000 hours, exclusive of the manufacturers' factory or laboratory tests, is furnished.
- D. Service Support
1. The equipment items shall be supported by service organizations which are reasonably convenient to the equipment installation in order to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.
- E. Manufacturer's Nameplate
1. Each item of equipment shall have a nameplate bearing the manufacturer's name, address, model number, and serial number securely affixed in a conspicuous place; the nameplate of the distributing agent will not be acceptable.
- F. Modification of References
1. In each of the publications referred to herein, consider the advisory provisions to be mandatory, as though the word, "shall" had been substituted for "should" wherever it appears. Interpret references in these publications to the "authority having jurisdiction," or words of similar meaning, to mean the Building Official or Inspector and/or Fire Marshal.
- G. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.
- H. Installer Qualifications: Company specializing in performing the work of this section with minimum 5 years of experience.
- I. Design Seismic bracing and restraints under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed in Connecticut.
- J. Products Requiring Electrical Connection: Listed and classified by UL as suitable for the purpose specified and indicated.
- 1.11 SEISMIC RESTRAINT
- A. General: This project is in a seismic zone per State and/or Local Codes and Ordinances and all materials and equipment shall be installed, supported, and seismically restrained accordingly. Verify current seismic requirements based on project location and with Code requirements.
- B. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the jurisdiction where the Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for

installations of vibration isolation bases and seismic restraints that are similar to those required for this Project in material, design, and extent.

- C. Shop Drawings: Show designs and calculations, certified by a professional engineer, for the following:
 - 1. Design Calculations: Calculations for selection of vibration isolators, design of vibration isolation bases, design of seismic supports and selection of seismic restraints for all equipment and materials.
 - 2. Vibration Isolation Base Details: Detail fabrication, including anchorages and attachments to the structure and to the supported equipment. Include auxiliary motor slides and rails, and base weights.
 - 3. Seismic Restraint Details: Detail fabrication and attachment of restraints, supports and snubbers.
 - 4. Seismic Separation Assemblies: Refer to the Architectural and/or Structural drawings for locations of seismic joints.
- D. Installation: Installation shall be carried out in strict accordance with the Seismic Engineer's submittal, current Code, accepted standards and the equipment and material manufacturers' recommendations.

1.12 COORDINATION WITH OTHER DIVISIONS

- A. Carry out all work in conjunction with other trades and give full cooperation in order that all work may proceed with a minimum of delay and interference. Particular emphasis is placed on timely installation of major apparatus and furnishing other Contractors, especially the General Contractor or Construction Manager, with information as to openings, chases, sleeves, bases, inserts, equipment locations, panels, access doors, etc. required by other trades, and to allow for serviceable access to equipment.
- B. Mechanical contractors' shall initiate coordination drawings and sections clearly showing how the work is to be installed in relation to the work of other trades, at no extra charge to the Owner. The Contractors' shall prepare coordination drawings at a scale no less than 1/4"=1'-0", showing the work of all trades, including but not limited to, the following: proposed ductwork installation in detail, including ceiling heights, approved structural steel shop drawings, duct heights, access doors, light fixtures, registers and diffusers, sprinkler piping and heads, electrical distribution conduits, wires, panels and any other electrical work which may conflict with the sheet metal ducts or piping, waste and vent piping, water piping, storm piping, and rain leaders. Provide elevation details showing connections and equipment layout and configuration based on approved submittals. Each shall use a different color code. A coordination meeting of all Contractors involved is then to be held and all possible conflicts are to be resolved. All trades

shall sign acceptance of the drawings and then shall submit two (2) prints of each drawing to the Engineer for record.

- C. Contractors are required to examine all of the Project Drawings and mutually arrange work so as to avoid interference. In general, ductwork, heating piping, sprinkler piping and drainage lines take precedence over water, gas and electrical conduits. The Engineer regarding the arrangement of work, which cannot be agreed upon by the Contractors, will make final decisions. Service of equipment will take precedence.
- D. Where the work of the Contractor will be installed in close proximity to or will interfere with work of other trades, assist in working out space conditions to make a satisfactory adjustment.
- E. If work is installed before coordinating with other Divisions or so as to cause interference with work of other Sections, the Contractor causing the interference will make necessary changes to correct the condition without extra charge to the Owner.
- F. Initial contact and coordination has been conducted with utility entities for the purpose of the preparation of Bid Documents. The Contractor shall coordinate all final specific utility requirements.

1.13 PRE-INSTALLATION MEETING

- A. Convene one week before starting work of this section.

1.14 PROJECT CONDITIONS

- A. Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.
- B. Sequence installation to conform with the project phasing indicated on the Architectural drawings.

1.15 WARRANTY

- A. See Section 017700 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a one year period after Date of Substantial Completion.

1.16 OPERATING INSTRUCTIONS

- A. Submit text of posted operating instructions for each system and principal item of equipment as specified in the technical sections. The operating instructions shall include the following:
 - 1. Wiring diagrams, control diagrams, and control sequence for each principal system and item of equipment.

2. Start up, proper adjustment, operating, lubrication, and shutdown procedures.
 3. Safety precautions.
 4. The procedure in the event of equipment failure.
 5. Other items of instruction as recommended by the manufacturer of each system or item of equipment.
- B. Print or engrave operating instructions and frame under glass or in approved laminated plastic. Post instructions where directed. For operating instructions exposed to the weather, provide weather-resistant materials or weatherproof enclosures. Operating instructions shall not fade when exposed to sunlight and shall be secured to prevent easy removal or peeling.

1.17 ELECTRICAL REQUIREMENTS

- A. Electrical installations shall conform to ANSI C2, NFPA 70, and requirements specified herein.
- B. Wiring and Conduit
1. Provide internal wiring for components of packaged equipment as an integral part of the equipment. Provide power wiring and conduit for field-installed equipment, and motor control equipment, the conduit and wiring connecting such assemblies, or other power sources to equipment. Power and Control wiring and conduit shall be provided under Division 26 and shall conform to the requirements of the section specifying the associated equipment.
- C. New Work
1. Provide electrical components of mechanical equipment, such as motors, motor starters, control or push-button stations, float or pressure switches, solenoid valves, integral disconnects, and other devices functioning to control mechanical equipment, as well as control wiring and conduit to conform with the requirements of the section covering the mechanical equipment. Extended voltage range motors shall not be permitted. The interconnecting power wiring and conduit, control wiring and conduit, the motor control equipment and the electrical power circuits shall be provided under Division 26, except internal wiring for components of packaged equipment shall be provided as an integral part of the equipment.
 - a. When motors and equipment furnished are larger than sizes indicated, provide any required changes to the electrical service as may be necessary and related work as a part of the work for the section specifying that motor or equipment.
- D. Instruction To Owners Personnel

1. Where specified in the technical sections, furnish the services of competent instructors to give full instruction to designated Owner personnel in the adjustment, operation, and maintenance of the specified systems and equipment, including pertinent safety requirements as required. Instructors shall be thoroughly familiar with all parts of the installation and shall be trained in operating theory as well as practical operation and maintenance work. Instruction shall be given during the first regular work week after the equipment or system has been accepted and turned over to the Owner for regular operation. The number of man-days (8 hours per day) of instruction furnished shall be as specified in the individual section. When more than 4 man-days of instruction are specified, use approximately half of the time for classroom instruction. Use other time for instruction with equipment or system. When significant changes or modifications in the equipment or system are made under the terms of the contract, provide additional instructions to acquaint the operating personnel with the changes or modifications. Instructions and/or training shall be video taped. Provide the owner with two copies of the video tape prior to project close out.

E. Lockout Requirements

1. Provide disconnecting means capable of being locked out for machines and other equipment to prevent unexpected startup or release of stored energy in accordance with 29 CFR 1910.147. Mechanical isolation of machines and other equipment shall be in accordance with requirements of Division 23, "Mechanical."

1.18 THROUGH-PENETRATION FIRESTOP SYSTEMS

- A. Refer to Division 7 Specification for additional and more specific information.
- B. Fire-stopping systems shall be submitted as shop drawing.
- C. Penetrations through fire-rated walls, ceiling or floors and penetrations through smoke barriers, smoke resistive construction, and construction enclosing compartmentalized areas involving both empty openings, openings containing penetration items, and openings due to flue decks shall be sealed with a U.L. approved fire-stop fitting classified for an hourly rating equivalent to the fire rating of the wall, ceiling or floor.
- D. Thruwall and floor seals shall be used to provide a positive means of sealing pipes or ducts which pass through the concrete foundation of a structure below grade or below ground water level. Seals shall also be used at entry points through concrete walls or floors which must be sealed.

1.19 COMMISSIONING

- A. Where indicated in the equipment or commissioning specifications, engage a factory-authorized service representative, to perform startup service as per functional test sheets and requirements of Section 01 91 13 - General Commissioning Requirements.
- B. Complete installation, startup checks and functional tests according to Section 01 91 13 - General Commissioning Requirements and manufacturers written instructions.
- C. Operational Test: After electrical system has been energized, start units to confirm proper unit operation. Rectify malfunctions, replace defective parts with new ones and repeat the start up procedure.
- D. Verify that equipment is installed and commissioned as per requirements of Section 01 91 13 and manufacturers written instructions/requirements.

PART 2 PRODUCTS

2.1 NOT USED

PART 3 EXECUTION

3.1 INSTALLATION

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

3.2 FIELD QUALITY CONTROL

- A. Perform field inspection and testing in accordance with Section 01 40 00.

3.3 STARTING EQUIPMENT AND SYSTEMS

- A. Provide manufacturer's field representative to prepare and start equipment.
- B. Adjust for proper operation within manufacturer's published tolerances.
- C. Demonstrate proper operation of equipment to Owner's designated representative.

3.4 CLEANING

- A. Clean the entire installation at substantial completion .
- B. Protect installed equipment from subsequent construction operations.

END OF SECTION 26 05 02 260500

SECTION 260505 - SELECTIVE DEMOLITION FOR ELECTRICAL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Electrical demolition.

1.2 RELATED REQUIREMENTS

- A. Section 017000 - Execution and Closeout Requirements: Additional requirements for alterations work.
- B. Section 028400 - Polychlorinate Biphenyl (PCB) Remediation: Removal of equipment and materials containing substances regulated under the Federal Toxic Substances Control Act (TSCA), including but not limited to those containing PCBs and mercury.

1.3 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Sustainable Design Documentation: Submit certification of removal and appropriate disposal of abandoned cables containing lead stabilizers.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. Materials and equipment for patching and extending work: As specified in individual sections.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify field measurements and circuiting arrangements are as indicated.
- B. Verify that abandoned wiring and equipment serve only abandoned facilities.
- C. Demolition drawings are based on casual field observation and existing record documents.
- D. Report discrepancies to Engineer before disturbing existing installation.
- E. Beginning of demolition means installer accepts existing conditions.

3.2 PREPARATION

- A. Disconnect electrical systems in walls, floors, and ceilings to be removed.

- B. Coordinate utility service outages with utility company.
- C. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on energized equipment or circuits, use personnel experienced in such operations.
- D. Existing Electrical Service: Maintain existing system in service until new system is complete and ready for service. Disable system only to make switchovers and connections. Minimize outage duration.
 - 1. Obtain permission from Owner at least 24 hours before partially or completely disabling system.
 - 2. Make temporary connections to maintain service in areas adjacent to work area.
- E. Existing Fire Alarm System: Maintain existing system in service until new system is accepted. Disable system only to make switchovers and connections. Minimize outage duration.
 - 1. Notify Owner before partially or completely disabling system.
 - 2. Notify local fire service.
 - 3. Make notifications at least 24 hours in advance.
 - 4. Make temporary connections to maintain service in areas adjacent to work area.

3.3 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK

- A. Perform work for removal and disposal of equipment and materials containing toxic substances regulated under the Federal Toxic Substances Control Act (TSCA) in accordance with applicable federal, state, and local regulations. Applicable equipment and materials include, but are not limited to:
 - 1. PCB-containing electrical equipment, including transformers, capacitors, and switches.
 - 2. PCB- and DEHP-containing lighting ballasts.
 - 3. Mercury-containing lamps and tubes, including fluorescent lamps, high intensity discharge (HID), arc lamps, ultra-violet, high pressure sodium, mercury vapor, ignitron tubes, neon, and incandescent.
- B. Remove, relocate, and extend existing installations to accommodate new construction.
- C. Remove abandoned wiring to source of supply.

- D. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Cut conduit flush with walls and floors, and patch surfaces.
- E. Disconnect abandoned outlets and remove devices. Remove abandoned outlets if conduit servicing them is abandoned and removed. Provide blank cover for abandoned outlets that are not removed.
- F. Disconnect and remove electrical devices and equipment serving utilization equipment that has been removed.
- G. Disconnect and remove abandoned luminaires. Remove brackets, stems, hangers, and other accessories.
- H. Repair adjacent construction and finishes damaged during demolition and extension work.
- I. Maintain access to existing electrical installations that remain active. Modify installation or provide access panel as appropriate.
- J. Extend existing installations using materials and methods compatible with existing electrical installations, or as specified.

3.4 CLEANING AND REPAIR

- A. See Section 017419 - Construction Waste Management and Disposal for additional requirements.
- B. Clean and repair existing materials and equipment that remain or that are to be reused.
- C. Panelboards: Clean exposed surfaces and check tightness of electrical connections. Replace damaged circuit breakers and provide closure plates for vacant positions. Provide typed circuit directory showing revised circuiting arrangement.
- D. Luminaires: Remove existing luminaires for cleaning. Use mild detergent to clean all exterior and interior surfaces; rinse with clean water and wipe dry. Replace lamps, ballasts and broken electrical parts.

END OF SECTION 260505

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Single conductor building wire.
- B. Metal-clad cable.
- C. Wiring connectors.
- D. Electrical tape.
- E. Wire pulling lubricant.
- F. Cable ties.

1.2 RELATED REQUIREMENTS

- A. Section 078400 - Firestopping.
- B. Section 260526 - Grounding and Bonding for Electrical Systems: Additional requirements for grounding conductors and grounding connectors.

1.3 REFERENCE STANDARDS

- A. ASTM B3 - Standard Specification for Soft or Annealed Copper Wire; 2013 (Reapproved 2024).
- B. ASTM B8 - Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft; 2023.
- C. ASTM B33 - Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes; 2010, with Editorial Revision (2020).
- D. ASTM B787/B787M - Standard Specification for 19 Wire Combination Unilay-Stranded Copper Conductors for Subsequent Insulation; 2004 (Reapproved 2020).
- E. ASTM D3005 - Standard Specification for Low-Temperature Resistant Vinyl Chloride Plastic Pressure-Sensitive Electrical Insulating Tape; 2024.
- F. ASTM D4388 - Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes; 2020.
- G. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.
- H. NECA 120 - Standard for Installing Armored Cable (AC) and Type Metal-Clad (MC) Cable; 2018.

- I. NEMA WC 70 - Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy; 2021.
 - J. NETA ATS - Standard for Acceptance Testing Specifications for Electrical Power Equipment And Systems; 2025.
 - K. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
 - L. UL 44 - Thermoset-Insulated Wires and Cables; Current Edition, Including All Revisions.
 - M. UL 83 - Thermoplastic-Insulated Wires and Cables; Current Edition, Including All Revisions.
 - N. UL 267 - Outline of Investigation for Wire-Pulling Compounds; Current Edition, Including All Revisions.
 - O. UL 486A-486B - Wire Connectors; Current Edition, Including All Revisions.
 - P. UL 486C - Splicing Wire Connectors; Current Edition, Including All Revisions.
 - Q. UL 486D - Sealed Wire Connector Systems; Current Edition, Including All Revisions.
 - R. UL 510 - Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape; Current Edition, Including All Revisions.
 - S. UL 1569 - Metal-Clad Cables; Current Edition, Including All Revisions.
- 1.4 ADMINISTRATIVE REQUIREMENTS
- A. Coordination:
 - 1. Coordinate sizes of raceways, boxes, and equipment enclosures installed under other sections with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
 - 2. Coordinate with electrical equipment installed under other sections to provide terminations suitable for use with the conductors to be installed.
 - 3. Notify Engineer of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.
- 1.5 SUBMITTALS
- A. See Section 013000 - Administrative Requirements, for submittal procedures.

- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conductors and cables, including detailed information on materials, construction, ratings, listings, and available sizes, configurations, and stranding.

1.6 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store conductors and cables in accordance with manufacturer's instructions.

1.8 FIELD CONDITIONS

- A. Do not install or otherwise handle thermoplastic-insulated conductors at temperatures lower than 14 degrees F, unless otherwise permitted by manufacturer's instructions. When installation below this temperature is unavoidable, notify Engineer and obtain direction before proceeding with work.

PART 2 PRODUCTS

2.1 CONDUCTOR AND CABLE APPLICATIONS

- A. Do not use conductors and cables for applications other than as permitted by NFPA 70 and product listing.
- B. Provide single conductor building wire installed in suitable raceway unless otherwise indicated, permitted, or required.
- C. Nonmetallic-sheathed cable is not permitted.
- D. Metal-clad cable is permitted only as follows:
 - 1. Where not otherwise restricted, may be used:
 - a. Where concealed above accessible ceilings for final connections from junction boxes to luminaires.
 - b. Where concealed in hollow stud walls and above accessible ceilings for branch circuits up to 20 A.
 - 2. In addition to other applicable restrictions, may not be used:
 - a. Where not approved for use by the authority having jurisdiction.

- b. Where exposed to view, except in dedicated electrical, communications, and mechanical rooms where not subject to damage.
- c. Where exposed to damage.
- d. For damp, wet, or corrosive locations, unless provided with a PVC jacket listed as suitable for those locations.

2.2 CONDUCTOR AND CABLE GENERAL REQUIREMENTS

- A. Provide products that comply with requirements of NFPA 70.
- B. Provide products listed, classified, and labeled as suitable for the purpose intended.
- C. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, etc. as required for a complete operating system.
- D. Comply with NEMA WC 70.
- E. Thermoplastic-Insulated Conductors and Cables: Listed and labeled as complying with UL 83.
- F. Thermoset-Insulated Conductors and Cables: Listed and labeled as complying with UL 44.
- G. Conductors for Grounding and Bonding: Also comply with Section 260526.
- H. Conductor Material:
 - 1. Provide copper conductors only. Aluminum conductors are not acceptable for this project. Conductor sizes indicated are based on copper.
 - 2. Copper Conductors: Soft drawn annealed, 98 percent conductivity, uncoated copper conductors complying with ASTM B3, ASTM B8, or ASTM B787/B787M unless otherwise indicated.
 - 3. Tinned Copper Conductors: Comply with ASTM B33.
- I. Minimum Conductor Size:
 - 1. Branch Circuits: 12 AWG.
 - a. Exceptions:
 - 1) 20 A, 120 V circuits longer than 75 feet: 10 AWG, for voltage drop.
 - 2) 20 A, 120 V circuits longer than 150 feet: 8 AWG, for voltage drop.
 - 3) 20 A, 277 V circuits longer than 150 feet: 10 AWG, for voltage drop.

- J. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
- K. Conductor Color Coding:
 - 1. Color code conductors as indicated unless otherwise required by the authority having jurisdiction. Maintain consistent color coding throughout project.
 - 2. Color Coding Method: Integrally colored insulation.
 - 3. Color Code:
 - a. 208Y/120 V, 3 Phase, 4 Wire System:
 - 1) Phase A: Black.
 - 2) Phase B: Red.
 - 3) Phase C: Blue.
 - 4) Neutral/Grounded: White.
 - b. Equipment Ground, All Systems: Green.
 - c. For modifications or additions to existing wiring systems, comply with existing color code when existing code complies with NFPA 70 and is approved by the authority having jurisdiction.

2.3 SINGLE CONDUCTOR BUILDING WIRE

- A. Description: Single conductor insulated wire.
- B. Conductor Stranding:
 - 1. Feeders and Branch Circuits:
 - a. Size 10 AWG and Smaller: Solid.
 - b. Size 8 AWG and Larger: Stranded.
- C. Insulation Voltage Rating: 600 V.
- D. Insulation:
 - 1. Copper Building Wire: Type THHN/THWN or THHN/THWN-2.

2.4 METAL-CLAD CABLE

- A. Description: NFPA 70, Type MC cable listed and labeled as complying with UL 1569, and listed for use in classified firestop systems to be used.
- B. Conductor Stranding:
 - 1. Size 10 AWG and Smaller: Solid.
 - 2. Size 8 AWG and Larger: Stranded.
- C. Insulation Voltage Rating: 600 V.
- D. Insulation: Type THHN, THHN/THWN, or THHN/THWN-2.
- E. Grounding: Full-size integral equipment grounding conductor.
- F. Armor: Steel, interlocked tape.
- G. Provide PVC jacket applied over cable armor.

2.5 WIRING CONNECTORS

- A. Description: Wiring connectors appropriate for the application, suitable for use with the conductors to be connected, and listed as complying with UL 486A-486B or UL 486C as applicable.
- B. Wiring Connectors for Splices and Taps:
 - 1. Copper Conductors Size 8 AWG and Smaller: Use twist-on insulated spring connectors.
 - 2. Copper Conductors Size 6 AWG and Larger: Use mechanical connectors or compression connectors.
- C. Do not use insulation-piercing or insulation-displacement connectors designed for use with conductors without stripping insulation.
- D. Do not use push-in wire connectors as a substitute for twist-on insulated spring connectors.
- E. Twist-on Insulated Spring Connectors: Rated 600 V, 221 degrees F for standard applications and 302 degrees F for high temperature applications; pre-filled with sealant and listed as complying with UL 486D for damp and wet locations.
- F. Mechanical Connectors: Provide bolted type or set-screw type.
- G. Compression Connectors: Provide circumferential type or hex type crimp configuration.

2.6 ACCESSORIES

A. Electrical Tape:

1. Vinyl Color Coding Electrical Tape: Integrally colored to match color code indicated; listed as complying with UL 510; minimum thickness of 7 mil; resistant to abrasion, corrosion, and sunlight; suitable for continuous temperature environment up to 221 degrees F.
2. Vinyl Insulating Electrical Tape: Complying with ASTM D3005 and listed as complying with UL 510; minimum thickness of 7 mil; resistant to abrasion, corrosion, and sunlight; conformable for application down to 0 degrees F and suitable for continuous temperature environment up to 221 degrees F.
3. Rubber Splicing Electrical Tape: Ethylene Propylene Rubber (EPR) tape, complying with ASTM D4388; minimum thickness of 30 mil; suitable for continuous temperature environment up to 194 degrees F and short-term 266 degrees F overload service.

B. Wire Pulling Lubricant:

1. Listed and labeled as complying with UL 267.
2. Suitable for use with conductors/cables and associated insulation/jackets to be installed.
3. Suitable for use at installation temperature.

C. Cable Ties: Material and tensile strength rating suitable for application.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that interior of building has been protected from weather.
- B. Verify that work likely to damage wire and cable has been completed.
- C. Verify that raceways, boxes, and equipment enclosures are installed and are properly sized to accommodate conductors and cables in accordance with NFPA 70.
- D. Verify that field measurements are as indicated.
- E. Verify that conditions are satisfactory for installation prior to starting work.

3.2 PREPARATION

- A. Clean raceways thoroughly to remove foreign materials before installing conductors and cables.

3.3 INSTALLATION

- A. Circuiting Requirements:
 - 1. Unless dimensioned, circuit routing indicated is diagrammatic.
 - 2. When circuit destination is indicated without specific routing, determine exact routing required.
 - 3. Arrange circuiting to minimize splices.
 - 4. Include circuit lengths required to install connected devices within 10 ft of location indicated.
 - 5. Maintain separation of Class 1, Class 2, and Class 3 remote-control, signaling, and power-limited circuits in accordance with NFPA 70.
- B. Install products in accordance with manufacturer's instructions.
- C. Perform work in accordance with NECA 1 (general workmanship).
- D. Install metal-clad cable (Type MC) in accordance with NECA 120.
- E. Installation in Raceway:
 - 1. Tape ends of conductors and cables to prevent infiltration of moisture and other contaminants.
 - 2. Pull all conductors and cables together into raceway at same time.
 - 3. Do not damage conductors and cables or exceed manufacturer's recommended maximum pulling tension and sidewall pressure.
 - 4. Use suitable wire pulling lubricant where necessary, except when lubricant is not recommended by the manufacturer.
- F. Paralleled Conductors: Install conductors of the same length and terminate in the same manner.
- G. Secure and support conductors and cables in accordance with NFPA 70 using suitable supports and methods approved by the authority having jurisdiction. Provide independent support from building structure. Do not provide support from raceways, piping, ductwork, or other systems.
 - 1. Installation Above Suspended Ceilings: Do not provide support from ceiling support system. Do not provide support from ceiling grid or allow conductors and cables to lay on ceiling tiles.

- H. Terminate cables using suitable fittings.
 - 1. Metal-Clad Cable (Type MC):
 - a. Use listed fittings.
 - b. Cut cable armor only using specialized tools to prevent damaging conductors or insulation. Do not use hacksaw or wire cutters to cut armor.
- I. Install conductors with a minimum of 12 inches of slack at each outlet.
- J. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.
- K. Group or otherwise identify neutral/grounded conductors with associated ungrounded conductors inside enclosures in accordance with NFPA 70.
- L. Make wiring connections using specified wiring connectors.
 - 1. Make splices and taps only in accessible boxes. Do not pull splices into raceways or make splices in conduit bodies or wiring gutters.
 - 2. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors.
 - 3. Do not remove conductor strands to facilitate insertion into connector.
 - 4. Clean contact surfaces on conductors and connectors to suitable remove corrosion, oxides, and other contaminates. Do not use wire brush on plated connector surfaces.
 - 5. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
 - 6. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.
- M. Insulate splices and taps that are made with uninsulated connectors using methods suitable for the application, with insulation and mechanical strength at least equivalent to unspliced conductors.
 - 1. Dry Locations: Use insulating covers specifically designed for the connectors or electrical tape.
 - a. For taped connections, first apply adequate amount of rubber splicing electrical tape, followed by outer covering of vinyl insulating electrical tape.

- N. Insulate ends of spare conductors using vinyl insulating electrical tape.
- O. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 078400.
- P. Unless specifically indicated to be excluded, provide final connections to all equipment and devices, including those furnished by others, as required for a complete operating system.

3.4 FIELD QUALITY CONTROL

- A. See Section 014000 - Quality Requirements, for additional requirements.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Perform inspections and tests listed in NETA ATS, Section 7.3.2. The insulation resistance test is required for all conductors. The resistance test for parallel conductors listed as optional is not required.
- D. Correct deficiencies and replace damaged or defective conductors and cables.

END OF SECTION 260519

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Support and attachment requirements and components for equipment, conduit, cable, boxes, and other electrical work.

1.2 RELATED REQUIREMENTS

- A. Section 033000 - Cast-in-Place Concrete: Concrete equipment pads.
- B. Section 260533.13 - Conduit for Electrical Systems: Additional support and attachment requirements for conduits.
- C. Section 260533.16 - Boxes for Electrical Systems: Additional support and attachment requirements for boxes.
- D. Section 265100 - Interior Lighting: Additional support and attachment requirements for interior luminaires.

1.3 REFERENCE STANDARDS

- A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2024.
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.
- C. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel; 2023.
- D. MFMA-4 - Metal Framing Standards Publication; 2004.
- E. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.
- F. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate sizes and arrangement of supports and bases with actual equipment and components to be installed.

2. Coordinate work to provide additional framing and materials required for installation.
3. Coordinate compatibility of support and attachment components with mounting surfaces at installed locations.
4. Coordinate arrangement of supports with ductwork, piping, equipment and other potential conflicts.
5. Notify Engineer of conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

B. Sequencing:

1. Do not install products on or provide attachment to concrete surfaces until concrete has cured; see Section 033000.

1.5 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.1 SUPPORT AND ATTACHMENT COMPONENTS

A. General Requirements:

1. Comply with the following. Where requirements differ, comply with most stringent.
 - a. NFPA 70.
 - b. Applicable building code.
 - c. Requirements of authorities having jurisdiction.
2. Provide required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for complete installation of electrical work.
3. Provide products listed, classified, and labeled as suitable for purpose intended, where applicable.
4. Where support and attachment component types and sizes are not indicated, select in accordance with manufacturer's application criteria as required for load to be supported.

Include consideration for vibration, equipment operation, and shock loads where applicable.

5. Do not use products for applications other than as permitted by NFPA 70 and product listing.
 6. Do not use wire, chain, perforated pipe strap, or wood for permanent supports unless specifically indicated or permitted.
 7. Steel Components: Use corrosion-resistant materials suitable for environment where installed.
 - a. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
 - b. Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM A123/A123M or ASTM A153/A153M.
- B. Conduit and Cable Supports: Straps and clamps suitable for conduit or cable to be supported.
1. Conduit Straps: One-hole or two-hole type; steel or malleable iron.
 2. Conduit Clamps: Bolted type unless otherwise indicated.
- C. Outlet Box Supports: Hangers and brackets suitable for boxes to be supported.
- D. Metal Channel/Strut Framing Systems:
1. Description: Factory-fabricated, continuous-slot, metal channel/strut and associated fittings, accessories, and hardware required for field assembly of supports.
 2. Comply with MFMA-4.
- E. Hanger Rods: Threaded, zinc-plated steel unless otherwise indicated.
- F. Anchors and Fasteners:
1. Unless otherwise indicated and where not otherwise restricted, use anchor and fastener types indicated for specified applications.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that mounting surfaces are ready to receive support and attachment components.

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

3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install hangers and supports in accordance with NECA 1.
- C. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
- D. Unless specifically indicated or approved by Engineer, do not provide support from suspended ceiling support system or ceiling grid.
- E. Unless specifically indicated or approved by Engineer, do not provide support from roof deck.
- F. Do not penetrate or otherwise notch or cut structural members without approval of Architect.
- G. Equipment Support and Attachment:
 - 1. Use metal, fabricated supports or supports assembled from metal channel/strut to support equipment as required.
 - 2. Use metal channel/strut secured to studs to support equipment surface mounted on hollow stud walls when wall strength is not sufficient to resist pull-out.
 - 3. Use metal channel/strut to support surface-mounted equipment in wet or damp locations to provide space between equipment and mounting surface.
 - 4. Securely fasten floor-mounted equipment. Do not install equipment such that it relies on its own weight for support.
- H. Conduit Support and Attachment: See Section 260533.13 for additional requirements.
- I. Box Support and Attachment: See Section 260533.16 for additional requirements.
- J. Interior Luminaire Support and Attachment: See Section 265100 for additional requirements.
- K. Secure fasteners in accordance with manufacturer's recommended torque settings.
- L. Remove temporary supports.

3.3 FIELD QUALITY CONTROL

- A. See Section 014000 - Quality Requirements for additional requirements.
- B. Inspect support and attachment components for damage and defects.

- C. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.
- D. Correct deficiencies and replace damaged or defective support and attachment components.

END OF SECTION 260529

SECTION 260533.13 - CONDUIT FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Galvanized steel rigid metal conduit (RMC).
- B. Flexible metal conduit (FMC).
- C. Galvanized steel electrical metallic tubing (EMT).

1.2 RELATED REQUIREMENTS

- A. Section 078400 - Firestopping.
- B. Section 260526 - Grounding and Bonding for Electrical Systems.
- C. Section 260529 - Hangers and Supports for Electrical Systems.

1.3 REFERENCE STANDARDS

- A. ANSI C80.1 - American National Standard for Electrical Rigid Steel Conduit (ERSC); 2020.
- B. ANSI C80.3 - American National Standard for Electrical Metallic Tubing -- Steel (EMT-S); 2020.
- C. ANSI C80.6 - American National Standard for Electrical Intermediate Metal Conduit; 2018.
- D. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.
- E. NECA 101 - Standard for Installing Steel Conduits (Rigid, IMC, EMT); 2020.
- F. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; 2014.
- G. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- H. UL 1 - Flexible Metal Conduit; Current Edition, Including All Revisions.
- I. UL 6 - Electrical Rigid Metal Conduit-Steel; Current Edition, Including All Revisions.
- J. UL 514B - Conduit, Tubing, and Cable Fittings; Current Edition, Including All Revisions.
- K. UL 797 - Electrical Metallic Tubing-Steel; Current Edition, Including All Revisions.
- L. UL 1242 - Electrical Intermediate Metal Conduit-Steel; Current Edition, Including All Revisions.

- M. UL 2419 - Outline of Investigation for Electrically Conductive Corrosion Resistant Compounds; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

1. Coordinate minimum sizes of conduits with actual type and quantity of conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
2. Coordinate arrangement of conduits with structural members, ductwork, piping, equipment, and other potential conflicts.
3. Verify exact conduit termination locations required for boxes, enclosures, and equipment.
4. Coordinate work to provide roof penetrations that preserve integrity of roofing system and do not void roof warranty.
5. Notify Engineer of conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

B. Sequencing:

1. Do not begin installation of conductors and cables until installation of conduit between termination points is complete.

1.5 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittals procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conduits and fittings.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store conduit and fittings in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.1 CONDUIT APPLICATIONS

- A. Do not use conduit and associated fittings for applications other than as permitted by NFPA 70, manufacturer's instructions, and product listing.
- B. Unless otherwise indicated and where not otherwise restricted, use conduit types indicated for specified applications. Where more than one listed application applies, comply with most

restrictive requirements. Where conduit type for particular application is not specified, use galvanized steel rigid metal conduit.

- C. Concealed Within Masonry Walls: Use galvanized steel electrical metallic tubing (EMT).
- D. Fished in Existing Walls, Where Necessary: Use flexible metal conduit (FMC) or galvanized steel electrical metallic tubing (EMT).

2.2 CONDUIT - GENERAL REQUIREMENTS

- A. Comply with NFPA 70.
- B. Existing Work: Where existing conduits are indicated to be reused, they may be reused only where they comply with specified requirements, are free from corrosion, and integrity is verified by pulling mandrel through them.
- C. Provide conduit, fittings, supports, and accessories required for complete raceway system.
- D. Provide products listed, classified, and labeled as suitable for purpose intended.
- E. Minimum Conduit Size, Unless Otherwise Indicated:
 - 1. Branch Circuits: 3/4-inch trade size.
 - 2. Branch Circuit Homeruns: 3/4-inch trade size.
- F. Where conduit size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

2.3 GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

- A. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit complying with ANSI C80.1 and listed and labeled as complying with UL 6.
- B. Fittings:
 - 1. Nonhazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B or UL 6.
 - 2. Material: Use steel or malleable iron.
 - 3. Connectors and Couplings: Use threaded type fittings only. Threadless fittings, including set screw and compression/gland types, are not permitted.

2.4 FLEXIBLE METAL CONDUIT (FMC)

- A. Description: NFPA 70, Type FMC standard-wall steel flexible metal conduit listed and labeled as complying with UL 1, and listed for use in classified firestop systems.
- B. Fittings:
 - 1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 - 2. Material: Use steel or malleable iron.

2.5 GALVANIZED STEEL ELECTRICAL METALLIC TUBING (EMT)

- A. Description: NFPA 70, Type EMT galvanized steel electrical metallic tubing complying with ANSI C80.3 and listed and labeled as complying with UL 797.
- B. Fittings:
 - 1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 - 2. Material: Use steel or malleable iron.
 - 3. Connectors and Couplings: Use compression/gland or set-screw type.
 - a. Do not use indenter type connectors and couplings.

2.6 ACCESSORIES

- A. Conduit Joint Compound: Corrosion-resistant, electrically conductive compound listed as complying with UL 2419; suitable for use with conduit to be installed.
- B. Pull Strings: Use nylon or polyester tape with average breaking strength of not less than 1,250 lbf.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that mounting surfaces are ready to receive conduits.
- C. Verify that conditions are satisfactory for installation prior to starting work.

3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install conduit in accordance with NECA 1.
- C. Galvanized Steel Rigid Metal Conduit (RMC): Install in accordance with NECA 101.
- D. Intermediate Metal Conduit (IMC): Install in accordance with NECA 101.
- E. Conduit Routing:
 - 1. Unless dimensioned, conduit routing indicated is diagrammatic.
 - 2. When conduit destination is indicated without specific routing, determine exact routing required.
 - 3. Conceal conduits unless specifically indicated to be exposed.
 - 4. Conduits in the following areas may be exposed, unless otherwise indicated:
 - a. Electrical rooms.
 - b. Mechanical equipment rooms.
 - c. Within joists in areas with no ceiling.
 - 5. Arrange conduit to maintain adequate headroom, clearances, and access.
 - 6. Arrange conduit to provide no more than equivalent of four 90-degree bends between pull points.
 - 7. Arrange conduit to provide no more than 150 feet between pull points.
 - 8. Route conduits above water and drain piping where possible.
 - 9. Arrange conduit to prevent moisture traps. Provide drain fittings at low points and at sealing fittings where moisture may collect.
 - 10. Maintain minimum clearance of 6 inches between conduits and piping for other systems.
 - 11. Maintain minimum clearance of 12 inches between conduits and hot surfaces. This includes, but is not limited to:
 - a. Heaters.
 - b. Hot water piping.

c. Flues.

12. Group parallel conduits in same area on common rack.

F. Conduit Support:

1. Secure and support conduits in accordance with NFPA 70 using suitable supports and methods approved by authorities having jurisdiction; see Section 260529.
2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
3. Installation Above Suspended Ceilings: Do not provide support from ceiling support system. Do not provide support from ceiling grid or allow conduits to lay on ceiling tiles.
4. Use conduit strap to support single surface-mounted conduit.
 - a. Use clamp back spacer with conduit strap for damp and wet locations to provide space between conduit and mounting surface.
5. Use metal channel/strut with accessory conduit clamps to support multiple parallel surface-mounted conduits.
6. Use conduit clamp to support single conduit from beam clamp or threaded rod.
7. Use trapeze hangers assembled from threaded rods and metal channel/strut with accessory conduit clamps to support multiple parallel suspended conduits.
8. Use of wire for support of conduits is not permitted.

G. Connections and Terminations:

1. Use approved zinc-rich paint or conduit joint compound on field-cut threads of galvanized steel conduits prior to making connections.
2. Where two threaded conduits must be joined and neither can be rotated, use three-piece couplings or split couplings. Do not use running threads.
3. Use suitable adapters where required to transition from one type of conduit to another.
4. Terminate threaded conduits in boxes and enclosures using threaded hubs or double lock nuts for dry locations and raintight hubs for wet locations.
5. Provide insulating bushings, insulated throats, or listed metal fittings with smooth, rounded edges at conduit terminations to protect conductors.
6. Secure joints and connections to provide mechanical strength and electrical continuity.

H. Penetrations:

1. Do not penetrate or otherwise notch or cut structural members, including footings and grade beams, without approval of Structural Engineer.
2. Make penetrations perpendicular to surfaces unless otherwise indicated.
3. Provide sleeves for penetrations as indicated or as required to facilitate installation. Set sleeves flush with exposed surfaces unless otherwise indicated or required.
4. Conceal bends for conduit risers emerging above ground.
5. Where conduits penetrate waterproof membrane, seal as required to maintain integrity of membrane.
6. Make penetrations for roof-mounted equipment within associated equipment openings and curbs where possible to minimize roofing system penetrations. Where penetrations are necessary, seal as indicated or as required to preserve integrity of roofing system and maintain roof warranty.
7. Install firestopping to preserve fire resistance rating of partitions and other elements; see Section 078400.

I. Conduit Movement Provisions: Where conduits are subject to movement, provide expansion and expansion/deflection fittings to prevent damage to enclosed conductors or connected equipment. This includes, but is not limited to:

1. Where conduits cross structural joints intended for expansion, contraction, or deflection.
2. Where conduits are subject to earth movement by settlement or frost.

J. Conduit Sealing:

1. Use foam conduit sealant to prevent entry of moisture and gases. This includes, but is not limited to:
 - a. Where conduits enter building from outside.
 - b. Where service conduits enter building from underground distribution system.
 - c. Where conduits enter building from underground.
 - d. Where conduits may transport moisture to contact live parts.

2. Where conduits cross barriers between areas of potential substantial temperature differential, use foam conduit sealant at accessible point near penetration to prevent condensation. This includes, but is not limited to:
 - a. Where conduits pass from outdoors into conditioned interior spaces.
 - b. Where conduits pass from unconditioned interior spaces into conditioned interior spaces.
- K. Provide grounding and bonding; see Section 260526.

3.3 FIELD QUALITY CONTROL

- A. See Section 014000 - Quality Requirements for additional requirements.
- B. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.
- C. Correct deficiencies and replace damaged or defective conduits.

3.4 CLEANING

- A. Clean interior of conduits to remove moisture and foreign matter.

3.5 PROTECTION

- A. Immediately after installation of conduit, use suitable manufactured plugs to provide protection from entry of moisture and foreign material and do not remove until ready for installation of conductors.

END OF SECTION 260533.13

SECTION 260533.16 - BOXES FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Outlet and device boxes up to 100 cubic inches, including those used as junction and pull boxes.
- B. Cabinets and enclosures, including junction and pull boxes larger than 100 cubic inches.

1.2 RELATED REQUIREMENTS

- A. Section 083100 - Access Doors and Panels: Panels for maintaining access to concealed boxes.
- B. Section 260529 - Hangers and Supports for Electrical Systems.
- C. Section 260533.13 - Conduit for Electrical Systems:
 - 1. Conduit bodies and other fittings.
 - 2. Additional requirements for locating boxes to limit conduit length and/or number of bends between pulling points.
- D. Section 262726 - Wiring Devices:
 - 1. Wall plates.
 - 2. Additional requirements for locating boxes for wiring devices.

1.3 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.
- B. NECA 130 - Standard for Installing and Maintaining Wiring Devices; 2016.
- C. NEMA EN 10250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2024.
- D. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; 2014.
- E. NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports; 2013 (Reaffirmed 2020).
- F. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- G. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations; Current Edition, Including All Revisions.

- H. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations; Current Edition, Including All Revisions.
- I. UL 508A - Industrial Control Panels; Current Edition, Including All Revisions.
- J. UL 514A - Metallic Outlet Boxes; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
 - 2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
 - 3. Coordinate minimum sizes of boxes with the actual installed arrangement of conductors, clamps, support fittings, and devices, calculated according to NFPA 70.
 - 4. Coordinate minimum sizes of pull boxes with the actual installed arrangement of connected conduits, calculated according to NFPA 70.
 - 5. Coordinate the placement of boxes with millwork, furniture, devices, equipment, etc. installed under other sections or by others.
 - 6. Coordinate the work with other trades to preserve insulation integrity.
 - 7. Coordinate the work with other trades to provide walls suitable for installation of flush-mounted boxes where indicated.
 - 8. Notify Engineer of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.5 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for cabinets and enclosures.
- C. Project Record Documents: Record actual locations for outlet and device boxes, pull boxes, and cabinets and enclosures.

1.6 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.1 BOXES

A. General Requirements:

1. Do not use boxes and associated accessories for applications other than as permitted by NFPA 70 and product listing.
2. Provide all boxes, fittings, supports, and accessories required for a complete raceway system and to accommodate devices and equipment to be installed.
3. Provide products listed, classified, and labeled as suitable for the purpose intended.
4. Where box size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
5. Provide grounding terminals within boxes where equipment grounding conductors terminate.

B. Outlet and Device Boxes Up to 100 cubic inches, Including Those Used as Junction and Pull Boxes:

1. Use sheet-steel boxes for dry locations unless otherwise indicated or required.
2. Use cast iron boxes or cast aluminum boxes for damp or wet locations unless otherwise indicated or required; furnish with compatible weatherproof gasketed covers.
3. Use suitable concrete type boxes where flush-mounted in concrete.
4. Use suitable masonry type boxes where flush-mounted in masonry walls.
5. Use raised covers suitable for the type of wall construction and device configuration where required.
6. Use shallow boxes where required by the type of wall construction.
7. Do not use "through-wall" boxes designed for access from both sides of wall.

8. Sheet-Steel Boxes: Comply with NEMA OS 1, and list and label as complying with UL 514A.
 9. Cast Metal Boxes: Comply with NEMA FB 1, and list and label as complying with UL 514A; furnish with threaded hubs.
 10. Boxes for Supporting Luminaires and Ceiling Fans: Listed as suitable for the type and weight of load to be supported; furnished with fixture stud to accommodate mounting of luminaire where required.
 11. Boxes for Ganged Devices: Use multigang boxes of single-piece construction. Do not use field-connected gangable boxes unless specifically indicated or permitted.
 12. Minimum Box Size, Unless Otherwise Indicated:
 13. Wall Plates: Comply with Section 262726.
- C. Cabinets and Enclosures, Including Junction and Pull Boxes Larger Than 100 cubic inches:
1. Comply with NEMA EN 10250, and list and label as complying with UL 50 and UL 50E, or UL 508A.
 2. NEMA EN 10250 Environment Type, Unless Otherwise Indicated:
 - a. Indoor Clean, Dry Locations: Type 1, painted steel.
 3. Junction and Pull Boxes Larger Than 100 cubic inches:
 - a. Provide screw-cover or hinged-cover enclosures unless otherwise indicated.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that mounting surfaces are ready to receive boxes.
- C. Verify that conditions are satisfactory for installation prior to starting work.

3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install boxes in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards where mounting heights are not indicated.

- C. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.
- D. Flush-mount boxes in finished areas unless specifically indicated to be surface-mounted.
- E. Box Locations:
 - 1. Locate boxes to be accessible. Provide access panels in accordance with Section 083100 as required where approved by the Architect.
 - 2. Unless dimensioned, box locations indicated are approximate.
 - 3. Locate boxes as required for devices installed under other sections or by others.
 - a. Switches, Receptacles, and Other Wiring Devices: Comply with Section 262726.
 - 4. Locate boxes so that wall plates do not span different building finishes.
 - 5. Locate boxes so that wall plates do not cross masonry joints.
 - 6. Unless otherwise indicated, where multiple outlet boxes are installed at the same location at different mounting heights, install along a common vertical center line.
 - 7. Do not install flush-mounted boxes on opposite sides of walls back-to-back. Provide minimum 6 inches horizontal separation unless otherwise indicated.
 - 8. Acoustic-Rated Walls: Do not install flush-mounted boxes on opposite sides of walls back-to-back; provide minimum 24 inches horizontal separation.
 - 9. Fire Resistance Rated Walls: Install flush-mounted boxes such that the required fire resistance will not be reduced.
 - 10. Locate junction and pull boxes as indicated, as required to facilitate installation of conductors, and to limit conduit length and/or number of bends between pulling points in accordance with Section 260533.13.
 - 11. Locate junction and pull boxes in the following areas, unless otherwise indicated or approved by the Architect:
 - a. Concealed above accessible suspended ceilings.
 - b. Within joists in areas with no ceiling.
 - c. Electrical rooms.
 - d. Mechanical equipment rooms.

F. Box Supports:

1. Secure and support boxes in accordance with NFPA 70 and Section 260529 using suitable supports and methods approved by the authority having jurisdiction.
2. Provide independent support from building structure except for cast metal boxes (other than boxes used for fixture support) supported by threaded conduit connections in accordance with NFPA 70. Do not provide support from piping, ductwork, or other systems.
3. Installation Above Suspended Ceilings: Do not provide support from ceiling grid or ceiling support system.

G. Install boxes plumb and level.

H. Flush-Mounted Boxes:

1. Install boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that front edge of box or associated raised cover is not set back from finished surface more than 1/4 inch or does not project beyond finished surface.
2. Install boxes in combustible materials such as wood so that front edge of box or associated raised cover is flush with finished surface.
3. Repair rough openings around boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that there are no gaps or open spaces greater than 1/8 inch at the edge of the box.

I. Install boxes as required to preserve insulation integrity.

J. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.

K. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 078400.

L. Close unused box openings.

M. Install blank wall plates on junction boxes and on outlet boxes with no devices or equipment installed or designated for future use.

N. Provide grounding and bonding in accordance with Section 260526.

3.3 CLEANING

A. Clean interior of boxes to remove dirt, debris, plaster and other foreign material.

3.4 PROTECTION

- A. Immediately after installation, protect boxes from entry of moisture and foreign material until ready for installation of conductors.

END OF SECTION 260533.16

SECTION 260923 - LIGHTING CONTROL DEVICES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Occupancy sensors.

1.2 RELATED REQUIREMENTS

- A. Section 260519 - Low-Voltage Electrical Power Conductors and Cables.
- B. Section 260529 - Hangers and Supports for Electrical Systems
- C. Section 260533.16 - Boxes for Electrical Systems.
- D. Section 262726 - Wiring Devices: Devices for manual control of lighting, including wall switches, wall dimmers, and fan speed controllers.
- E. Section 265100 - Interior Lighting.

1.3 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.
- B. NECA 130 - Standard for Installing and Maintaining Wiring Devices; 2016.
- C. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate placement of lighting control devices with millwork, furniture, equipment and other potential conflicts.
 - 2. Coordinate placement of wall switch occupancy sensors with installed door swings.
 - 3. Coordinate placement of occupancy sensors with millwork, furniture, equipment and other potential obstructions to motion detection coverage.
 - 4. Coordinate lighting control device product selections with luminaire characteristics; see Section 265100 and lighting fixture schedule.
 - 5. Notify Engineer of conflicts or deviations from Contract Documents to obtain direction prior to proceeding with work.

B. Sequencing:

1. Do not install lighting control devices until final surface finishes and painting are complete.

1.5 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Include ratings, operating modes or sequence of functions, configurations, standard wiring diagrams, dimensions, colors, service condition requirements, and installed features.

1. Occupancy Sensors: Include detailed motion detection coverage range diagrams.

C. Operation and Maintenance Data: Include detailed information on device programming and setup.

1.6 QUALITY ASSURANCE

A. Comply with NFPA 70.

1.7 DELIVERY, STORAGE, AND PROTECTION

A. Store products in clean, dry space in original manufacturer's packaging in accordance with manufacturer's written instructions until ready for installation.

1.8 FIELD CONDITIONS

1.9 WARRANTY

A. See Section 017800 - Closeout Submittals, for additional warranty requirements.

B. Manufacturer Warranty: Provide manufacturer warranty for defects in material and workmanship for duration below. Complete forms in Owner's name and register with manufacturer.

1. Occupancy Sensors: 5 years.

PART 2 PRODUCTS

2.1 LIGHTING CONTROL DEVICES - GENERAL REQUIREMENTS

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

B. Unless specifically indicated as excluded, provide components necessary for complete operating system including, but not limited to, conduit, wiring, connectors, hardware, and accessories.

2.2 OCCUPANCY SENSORS

A. General Requirements:

1. Description: Factory-assembled commercial specification grade devices for indoor use capable of sensing both major motion, such as walking, and minor motion, such as small desktop level movements, according to published coverage areas, for automatic control of load indicated.
2. Sensor Technology:
 - a. Passive Infrared/Ultrasonic Dual Technology Occupancy Sensors: Designed to detect occupancy using combination of both passive infrared and ultrasonic technologies.
3. Provide LED to visually indicate motion detection with separate color LEDs for each sensor type in dual technology units.
4. Operation: Unless otherwise indicated, occupancy sensor to turn load on when occupant presence is detected and to turn load off when no occupant presence is detected during adjustable turn-off delay time interval.
5. Dual Technology Occupancy Sensors: Field configurable turn-on and hold-on activation with settings for activation by either or both sensing technologies.
6. Turn-Off Delay: Field adjustable, with time delay settings up to 30 minutes.
7. Sensitivity: Field adjustable.
8. Compatibility (Non-Dimming Sensors): Suitable for controlling incandescent lighting, low-voltage lighting with electronic and magnetic transformers, fluorescent lighting with electronic and magnetic ballasts, and fractional motor loads, with no minimum load requirements.
9. Load Rating for Line Voltage Occupancy Sensors: As required to control load indicated on drawings.

B. Wall Switch Occupancy Sensors:

1. General Requirements:
 - a. Description: Occupancy sensors designed for installation in standard wall box at standard wall switch mounting height with field of view of 180 degrees, integrated manual control capability, and no leakage current to load in off mode.
 - b. Unless otherwise indicated or required to control load indicated on drawings, provide line voltage units with self-contained relay.

- c. Operation: Field selectable to operate either as occupancy sensor (automatic on/off) or as vacancy sensor (manual-on/automatic off).
 - d. Manual-Off Override Control: When used to turn off load while in automatic-on mode, unit to revert back to automatic mode after no occupant presence is detected during delayed-off time interval.
 - e. Finish: Color to be selected.
 2. Passive Infrared/Ultrasonic Dual Technology Wall Switch Occupancy Sensors: Capable of detecting motion within area of 900 square feet.
- C. Ceiling Mounted Occupancy Sensors:
 1. General Requirements:
 - a. Description: Low profile occupancy sensors designed for ceiling installation.
 - b. Unless otherwise indicated or required to control load indicated on drawings, provide low voltage units, for use with separate compatible accessory power packs.
 - c. Occupancy sensor to be field selectable as either manual-on/automatic-off or automatic on/off.
 - d. Finish: White unless otherwise indicated.
 2. Passive Infrared/Ultrasonic Dual Technology Ceiling Mounted Occupancy Sensors:
 - a. Standard Range Sensors: Capable of detecting motion within area of 450 square feet at mounting height of 9 feet, with field of view of 360 degrees.
- D. Power Packs for Low-Voltage Occupancy Sensors:
 1. Description: Plenum rated, self-contained low-voltage class 2 transformer and relay compatible with specified low-voltage occupancy sensors for switching of line-voltage loads.
 2. Provide quantity and configuration of power and slave packs with associated wiring and accessories as required to control load indicated on drawings.
 3. Input Supply Voltage: Dual rated for 120/277 V ac.
 4. Load Rating: As required to control load indicated on drawings.

PART 3 EXECUTION**3.1 EXAMINATION**

- A. Verify that field measurements are as indicated.
- B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NFPA 70.
- C. Verify that openings for outlet boxes are neatly cut and will be completely covered by devices or wall plates.
- D. Verify that final surface finishes are complete, including painting.
- E. Verify that branch circuit wiring installation is completed, tested, and ready for connection to lighting control devices.
- F. Verify that service voltage and ratings of lighting control devices are appropriate for service voltage and load requirements at location to be installed.
- G. Verify that conditions are satisfactory for installation prior to starting work.

3.2 PREPARATION

- A. Provide extension rings to bring outlet boxes flush with finished surface.
- B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.3 INSTALLATION

- A. Install lighting control devices in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards unless otherwise indicated.
- B. Coordinate locations of outlet boxes as required for installation of lighting control devices; see Section 260533.16.
 - 1. Mounting Heights: Unless otherwise indicated, as follows:
 - 2. Orient outlet boxes for vertical installation of lighting control devices unless otherwise indicated.
 - 3. Locate wall switch occupancy sensors on strike side of door with edge of wall plate 3 inches from edge of door frame. Where locations are indicated otherwise, notify Engineer to obtain direction prior to proceeding with work.
- C. Maintain separation of remote-control, signaling, and power-limited circuits.

1. See manufacturer instructions and Section 260519 for control wiring conductors, wiring methods, and identification requirements.
 - D. Install lighting control devices in accordance with manufacturer's instructions.
 - E. Unless otherwise indicated, connect lighting control device grounding terminal or conductor to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
 - F. Install lighting control devices plumb and level, and held securely in place.
 - G. Where required and not furnished with lighting control device, provide wall plate; see Section 262726.
 - H. Provide required supports; see Section 260529.
 - I. Where applicable, install lighting control devices and associated wall plates to fit completely flush to mounting surface with no gaps and rough opening completely covered without strain on wall plate. Repair or reinstall improperly installed outlet boxes or improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.
 - J. Occupancy Sensor Locations:
 1. Location Adjustments: Within design intent, reasonably minor adjustments to locations may be made in order to optimize coverage and avoid conflicts or problems affecting coverage.
 2. Locate ultrasonic and dual technology passive infrared/ultrasonic occupancy sensors minimum of 4 feet from air supply ducts or other sources of heavy air flow and as per manufacturer's recommendations, in order to minimize false triggers.
 - K. Unless otherwise indicated, install power packs for lighting control devices above accessible ceiling or above access panel in inaccessible ceiling near sensor location.
 - L. Where indicated, install separate compatible wall switches for manual control interface with lighting control devices or associated power packs.
 - M. Unless otherwise indicated, install switches on load side of power packs so that switch does not turn off power pack.
- 3.4 FIELD QUALITY CONTROL
- A. See Section 014000 - Quality Requirements, for additional requirements.
 - B. Inspect each lighting control device for damage and defects.

- C. Test occupancy sensors to verify proper operation, including time delays and ambient light thresholds where applicable. Verify optimal coverage for entire room or area.
- D. Correct wiring deficiencies and replace damaged or defective conductors, cables, and lighting control devices.

3.5 ADJUSTING

- A. Adjust devices and wall plates to be flush and level.
- B. Adjust occupancy sensor settings to minimize undesired activations while optimizing energy savings, and to achieve desired function as indicated or as directed by Engineer.
- C. Where indicated or as directed by Architect, install factory masking material or adjust integral blinders on passive infrared (PIR) and dual technology occupancy sensor lenses to block undesired motion detection.

3.6 CLEANING

- A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

3.7 CLOSEOUT ACTIVITIES

- A. See Section 017800 - Closeout Submittals, for closeout submittals.
- B. Training: Train Owner's personnel on operation, adjustment, programming, and maintenance of lighting control devices.
 - 1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.

END OF SECTION 260923

SECTION 262726 - WIRING DEVICES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Wall dimmers.
- B. Wall plates and covers.

1.2 RELATED REQUIREMENTS

- A. Section 260533.16 - Boxes for Electrical Systems.
- B. Section 260923 - Lighting Control Devices: Devices for automatic control of lighting, including occupancy sensors.

1.3 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.
- B. NECA 130 - Standard for Installing and Maintaining Wiring Devices; 2016.
- C. NEMA WD 1 - General Color Requirements for Wiring Devices; 1999 (Reaffirmed 2020).
- D. NEMA WD 6 - Wiring Devices - Dimensional Specifications; 2021.
- E. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- F. UL 514D - Cover Plates for Flush-Mounted Wiring Devices; Current Edition, Including All Revisions.
- G. UL 1472 - Solid-State Dimming Controls; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate the placement of outlet boxes with millwork, furniture, equipment, etc. installed under other sections or by others.
 - 2. Coordinate wiring device ratings and configurations with the electrical requirements of actual equipment to be installed.
 - 3. Coordinate the placement of outlet boxes for wall switches with actual installed door swings.

4. Coordinate the installation and preparation of uneven surfaces, such as split face block, to provide suitable surface for installation of wiring devices.
5. Notify Engineer of any conflicts or deviations from Contract Documents to obtain direction prior to proceeding with work.

B. Sequencing:

1.5 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's catalog information showing dimensions, colors, and configurations.
 1. Wall Dimmers: Include derating information for ganged multiple devices.
- C. Operation and Maintenance Data:
 1. Wall Dimmers: Include information on operation and setting of presets.

1.6 DELIVERY, STORAGE, AND PROTECTION

- A. Store in a clean, dry space in original manufacturer's packaging until ready for installation.

PART 2 PRODUCTS

2.1 WIRING DEVICES - GENERAL REQUIREMENTS

- A. Provide wiring devices suitable for intended use with ratings adequate for load served.

2.2 WALL DIMMERS

- A. General Requirements: Solid-state with continuous full-range even control following square law dimming curve, integral radio frequency interference filtering, power failure preset memory, air gap switch accessible without removing wall plate, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 1472; types and ratings suitable for load controlled as indicated on the drawings.
- B. Control: Slide control type with separate on/off switch.

2.3 WALL PLATES AND COVERS

- A. Wall Plates: Comply with UL 514D.
 1. Configuration: One piece cover as required for quantity and types of corresponding wiring devices.

2. Size: Standard.
 3. Screws: Metal with slotted heads finished to match wall plate finish.
- B. Nylon Wall Plates: Smooth finish, high-impact thermoplastic.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NFPA 70.
- C. Verify that wall openings are neatly cut and will be completely covered by wall plates.
- D. Verify that final surface finishes are complete, including painting.
- E. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.
- F. Verify that conditions are satisfactory for installation prior to starting work.

3.2 PREPARATION

- A. Provide extension rings to bring outlet boxes flush with finished surface.
- B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.3 INSTALLATION

- A. Perform work in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards unless otherwise indicated.
- B. Coordinate locations of outlet boxes provided under Section 260533.16 as required for installation of wiring devices provided under this section.
 1. Mounting Heights: Unless otherwise indicated, as follows:
 - a. Wall Dimmers: 48 inches above finished floor.
 2. Orient outlet boxes for vertical installation of wiring devices unless otherwise indicated.
 3. Locate wall switches on strike side of door with edge of wall plate 3 inches from edge of door frame. Where locations are indicated otherwise, notify Engineer to obtain direction prior to proceeding with work.

- C. Install wiring devices in accordance with manufacturer's instructions.
- D. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.
- E. Where required, connect wiring devices using pigtails not less than 6 inches long. Do not connect more than one conductor to wiring device terminals.
- F. Connect wiring devices by wrapping conductor clockwise 3/4 turn around screw terminal and tightening to proper torque specified by the manufacturer. Where present, do not use push-in pressure terminals that do not rely on screw-actuated binding.
- G. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
- H. Install wiring devices plumb and level with mounting yoke held rigidly in place.
- I. Install wall switches with OFF position down.
- J. Install wall dimmers to achieve full rating specified and indicated after derating for ganging as instructed by manufacturer.
- K. Do not share neutral conductor on branch circuits utilizing wall dimmers.
- L. Install wall plates to fit completely flush to wall with no gaps and rough opening completely covered without strain on wall plate. Repair or reinstall improperly installed outlet boxes or improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.
- M. Install blank wall plates on junction boxes and on outlet boxes with no wiring devices installed or designated for future use.

3.4 FIELD QUALITY CONTROL

- A. See Section 014000 - Quality Requirements, for additional requirements.
- B. Inspect each wiring device for damage and defects.
- C. Operate each wall dimmer with circuit energized to verify proper operation.
- D. Test each receptacle to verify operation and proper polarity.
- E. Correct wiring deficiencies and replace damaged or defective wiring devices.

3.5 ADJUSTING

- A. Adjust devices and wall plates to be flush and level.

- B. Adjust presets for wall dimmers according to manufacturer's instructions as directed by Engineer.

3.6 CLEANING

- A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

END OF SECTION 262726

SECTION 265100 - INTERIOR LIGHTING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Interior luminaires.
- B. Ballasts and drivers.

1.2 RELATED REQUIREMENTS

- A. Section 260529 - Hangers and Supports for Electrical Systems.
- B. Section 260533.16 - Boxes for Electrical Systems.
- C. Section 260923 - Lighting Control Devices.
 - 1. Includes automatic controls for lighting including occupancy sensors.
- D. Section 262726 - Wiring Devices: Manual wall switches and wall dimmers.

1.3 REFERENCE STANDARDS

- A. IES LM-79 - Approved Method: Optical and Electrical Measurements of Solid-State Lighting Products; 2024.
- B. IES LM-80 - Approved Method: Measuring Maintenance of Light Output Characteristics of Solid-State Light Sources; 2021.
- C. NECA/IESNA 500 - Standard for Installing Indoor Lighting Systems; 2006.
- D. NECA/IESNA 502 - Standard for Installing Industrial Lighting Systems; 2006.
- E. NEMA 410 - Performance Testing for Lighting Controls and Switching Devices with Electronic Drivers and Discharge Ballasts; 2023.
- F. NEMA LE 4 - Recessed Luminaires, Ceiling Compatibility; 2023.
- G. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- H. UL 1598 - Luminaires; Current Edition, Including All Revisions.
- I. UL 8750 - Light Emitting Diode (LED) Equipment for Use in Lighting Products; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

1. Coordinate the installation of luminaires with mounting surfaces installed under other sections or by others. Coordinate the work with placement of supports, anchors, etc. required for mounting. Coordinate compatibility of luminaires and associated trims with mounting surfaces at installed locations.
2. Coordinate the placement of luminaires with structural members, ductwork, piping, equipment, diffusers, fire suppression system components, and other potential conflicts installed under other sections or by others.
3. Notify Engineer of any conflicts or deviations from Contract Documents to obtain direction prior to proceeding with work.

1.5 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets including detailed information on luminaire construction, dimensions, ratings, finishes, mounting requirements, listings, service conditions, photometric performance, installed accessories, and ceiling compatibility; include model number nomenclature clearly marked with all proposed features.

1. LED Luminaires:

- a. Include estimated useful life, calculated based on IES LM-80 test data.

1.6 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

1.7 DELIVERY, STORAGE, AND PROTECTION

A. Receive, handle, and store products according to NECA/IESNA 500 (commercial lighting) and manufacturer's written instructions.

B. Keep products in original manufacturer's packaging and protect from damage until ready for installation.

1.8 FIELD CONDITIONS

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

1.9 WARRANTY

- A. See Section 017800 - Closeout Submittals, for additional warranty requirements.
- B. Provide 3-year manufacturer warranty for LED luminaires, including drivers.

PART 2 PRODUCTS

2.1 LUMINAIRE TYPES

- A. Furnish products as indicated in luminaire schedule included on the drawings.

2.2 LUMINAIRES

- A. Provide products that comply with requirements of NFPA 70.
- B. Provide products that are listed and labeled as complying with UL 1598, where applicable.
- C. Provide products listed, classified, and labeled as suitable for the purpose intended.
- D. Unless otherwise indicated, provide complete luminaires including lamp(s) and all sockets, ballasts, reflectors, lenses, housings and other components required to position, energize and protect the lamp and distribute the light.
- E. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, hardware, supports, trims, accessories, etc. as necessary for a complete operating system.
- F. Provide products suitable to withstand normal handling, installation, and service without any damage, distortion, corrosion, fading, discoloring, etc.
- G. Recessed Luminaires:
 - 1. Ceiling Compatibility: Comply with NEMA LE 4.
- H. LED Luminaires:
 - 1. Components: UL 8750 recognized or listed as applicable.
 - 2. Tested in accordance with IES LM-79 and IES LM-80.
 - 3. LED Estimated Useful Life: Minimum of 50,000 hours at 70 percent lumen maintenance, calculated based on IES LM-80 test data.

2.3 BALLASTS AND DRIVERS

- A. Ballasts/Drivers - General Requirements:

1. Provide ballasts containing no polychlorinated biphenyls (PCBs).
 2. Minimum Efficiency/Efficacy: Provide ballasts complying with all current applicable federal and state ballast efficiency/efficacy standards.
 3. Electronic Ballasts/Drivers: Inrush currents not exceeding peak currents specified in NEMA 410.
- B. Dimmable LED Drivers:
1. Dimming Range: Continuous dimming from 100 percent to five percent relative light output unless dimming capability to lower level is indicated, without flicker.
 2. Control Compatibility: Fully compatible with the dimming controls to be installed.
 - a. Wall Dimmers: See Section 262726.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate conductors in accordance with NFPA 70.
- C. Verify that suitable support frames are installed where required.
- D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to luminaires.
- E. Verify that conditions are satisfactory for installation prior to starting work.

3.2 PREPARATION

- A. Provide extension rings to bring outlet boxes flush with finished surface.
- B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.3 INSTALLATION

- A. Coordinate locations of outlet boxes provided under Section 260533.16 as required for installation of luminaires provided under this section.
- B. Install products in accordance with manufacturer's instructions.

- C. Install luminaires securely, in a neat and workmanlike manner, as specified in NECA 500 (commercial lighting) and NECA 502 (industrial lighting).
- D. Provide required support and attachment in accordance with Section 260529.
- E. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires.
- F. Recessed Luminaires:
 - 1. Install trims tight to mounting surface with no visible light leakage.
- G. Install accessories furnished with each luminaire.
- H. Bond products and metal accessories to branch circuit equipment grounding conductor.
- I. Install lamps in each luminaire.

3.4 FIELD QUALITY CONTROL

- A. See Section 014000 - Quality Requirements, for additional requirements.
- B. Inspect each product for damage and defects.
- C. Operate each luminaire after installation and connection to verify proper operation.
- D. Correct wiring deficiencies and repair or replace damaged or defective products. Repair or replace excessively noisy ballasts as determined by Engineer.

3.5 CLEANING

- A. Clean surfaces according to NECA 500 (commercial lighting) and manufacturer's instructions to remove dirt, fingerprints, paint, or other foreign material and restore finishes to match original factory finish.

3.6 CLOSEOUT ACTIVITIES

3.7 PROTECTION

- A. Protect installed luminaires from subsequent construction operations.

END OF SECTION 265100

**ROSTER OF ASBESTOS CONTAINING
& ASSUMED ASBESTOS CONTAINING MATERIALS**
3 Year Reinspection – August 2023

Inspector: Lois D. Armstrong - MAQC

School Building Name: Gilead Hill Elementary School

Street/City/Zip: 580 Gilead Street Hebron, CT

FLOOR TILE & MASTIC ACCESSIBLE	LOCATION	AMOUNT	MATERIAL ABATED (check)	
			Yes (date)	No
9x9 green floor tile and mastic beneath	Classrooms 20,26,28 and 32 *as numbered on diagram	3000 sq. ft.		
9x9 white floor tile and mastic beneath	Classrooms 22,23, 24, 25, 27, 29,and 31 * as numbered on diagram	6800 sq. ft.		
9x9 blue floor tile and mastic beneath	Storage rooms across from Gym, and Classrooms 7,5, and 2. * as numbered on diagram	3900 sq. ft.		
9x9 tan floor tile and mastic beneath	Classrooms 8,6,3,4,and Alger's office. * as numbered on diagram	8000 sq. ft.		
1x1 brown floor tile and mastic	Storage area across from stage entrance and corner hallway.	300 sq. ft.		
1x1 beige floor tile and mastic	Gymnasium	2400 sq. ft.		
1x1 gray, tan, white tile and mastic (All tile layers beneath in areas)	Main Hallway from Main office to teachers lounge and outside rooms 18-33.	5000 sq. ft.		

Please add comments or details concerning areas of partial abatement in a particular area:

If materials were abated please note on periodic surveillance forms also!!

**ROSTER OF ASBESTOS CONTAINING
& ASSUMED ASBESTOS CONTAINING MATERIALS**
3 Year Reinspection – August 2023

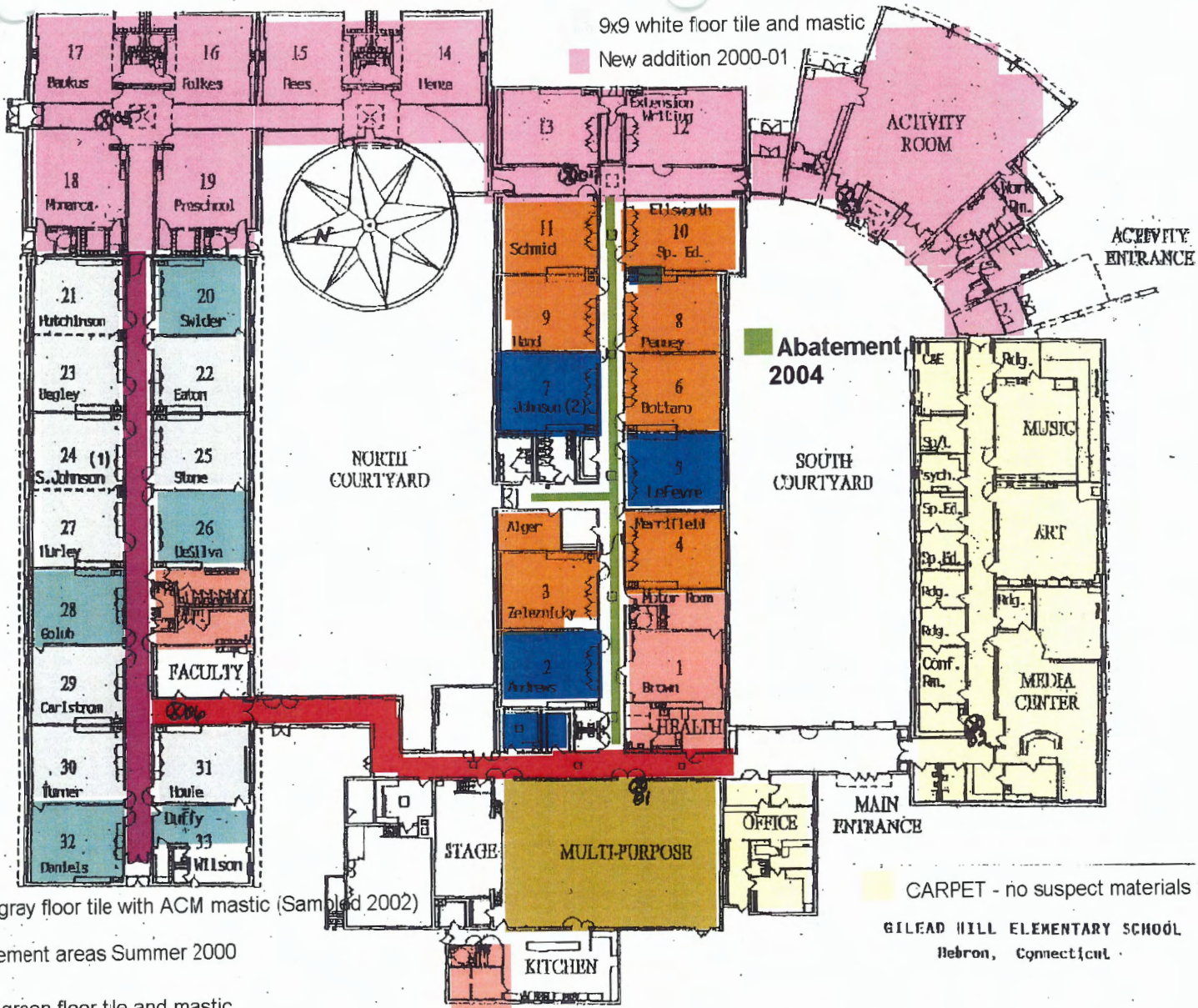
Inspector: Lois D. Armstrong - MAQC
School Building Name: Gilead Hill Elementary School
Street/City/Zip: 580 Gilead Street Hebron, CT

MATERIAL	LOCATION	AMOUNT	MATERIAL ABATED Yes (date) / No
Stage Wiring Insulation	Above Stage	60 linear ft.	
Sheetrock/Wallboard	Areas throughout building (some inaccessible)	Unknown	
Fire doors - insulation inaccessible	All doors throughout building	Unknown	
Window caulking & glazing compound	All windows throughout	Unknown	
2x4 suspended ceiling panels	Skylights of 1968 halls, classrooms 1-11, and storages on 1968 halls, including custodians room	10,000 sq. ft.	
Transite Backing - bookshelves	Classrooms 1-11 and 20-33.	2900 sq. ft.	

Please add comments or details concerning areas of partial abatement in a particular area:

If materials were abated please note on periodic surveillance forms also!!

08/27/01



- 1x1 tan /gray floor tile with ACM mastic (Sampled 2002)
- Abatement areas Summer 2000
- 9x9 green floor tile and mastic
- 1x1 over 9x9 floor tile and mastic
- 12x12 beige floor tile and mastic

■ 9x9 blue floor tile and mastic

■ 9x9 tan floor tile and mastic

■ CARPET - no suspect materials beneath

GILEAD HILL ELEMENTARY SCHOOL
Hebron, Connecticut



EAGLE
Environmental, Inc.

- **Industrial Hygiene / IAQ**
- **Hazardous Building Materials**
- **Environmental Assessments**
- **Laboratory Services & Training**

October 11, 2024

Mr. Robert Roach
Vice President
Friar Architecture
21 Talcott Notch Road
Farmington, Connecticut, 06032

**RE: Supplemental Asbestos Bulk Sample Collection and Analysis Report
Gilead Hill School
580 Gilead Street
Hebron, Connecticut
Eagle Project No. 24-065.12T1**

Dear Mr. Roach:

On October 1, 2024, Eagle Environmental, Inc. (Eagle) conducted supplemental bulk sampling of suspect Asbestos-Containing Building Materials (ACBMs) at the Gilead Hill School located at 580 Gilead Street in Hebron, Connecticut. The bulk sampling was performed by William Petrucci; a State of Connecticut Department of Public Health (CT DPH) licensed Asbestos Inspector (license #0001213).

The subject building is comprised of the original school building which was constructed in 1968 and three (3) additions which were constructed in 1970, 1988 and 2000. Eagle had previously conducted a targeted pre-renovation asbestos containing materials inspection within the 1968 and 2000 wings of the school building in August, 2024. The scope of the asbestos-containing materials inspection was limited to suspect materials that may be impacted by the removal and replacement of the existing roofing systems at the 1968 and 2000 wings of the building. At the exteriors of the 1968 and 2000 wings, the scope of the inspection included the existing roofing systems, suspect materials that may be impacted by the repair or replacement of structural members or roof decking and suspect materials that may be impacted by repairs to exterior façade systems. The interior inspection was limited to above ceiling suspect materials associated with mechanical systems, plumbing systems, structural members, roof decking, interior façade systems and suspended ceiling tile systems which may be impacted by the scope of roof removal and replacement, or which may be impacted by water intrusion or suspected microbial growth. The findings of this inspection were detailed in Eagle's "Targeted Pre-Renovation Asbestos-Containing Materials Inspection and Lead-Based Paint Screening Report" dated September 11, 2024.

Eagle's pre-renovation inspection confirmed the presence of ACBM ceiling tile panels within the 1968 building. The 2' x 4' smooth acoustical ceiling tile with big and small pinholes were identified adjacent to a skylight within the west corridor of the 1968 wing of the building and ceiling tile panels with a similar appearance were noted in several classrooms. The presence of ACBM ceiling tile panels is also recorded in the school's Asbestos Hazard Emergency Response Act (AHERA) Asbestos Management Plan. Within the Asbestos Management Plan, the identified ACBM ceiling tile panels are noted to be present at the skylights within the corridor of the 1968 building, within Classrooms 1 through 11 and within other miscellaneous rooms.

EAGLE ENVIRONMENTAL, INC.
8 SOUTH MAIN STREET, SUITE 3 • TERRYVILLE, CT 06786
PHONE (860) 589-8257 • FAX (860) 585-7034

Following the review of Eagle's report, Hebron Public Schools requested that Eagle conduct a supplemental inspection within the 1970 and 1988 wings to determine if the identified ACBM ceiling tile panels are present within those wings of the school building. Eagle's supplemental inspection identified the presence of ceiling tile panels in the 1970 wing of the building which are similar in appearance to the confirmed ACBM ceiling tile panels identified within the 1968 wing of the building. During the supplemental inspection, Eagle collected confirmatory bulk samples of ceiling tile panels at the 1968 and 1970 wings of the building which are similar in appearance to the identified ACBM ceiling tile panels.

The following suspect materials were sampled during the supplemental inspection:

- Smooth acoustical ceiling tile with big and small pinholes with foil wrap (1968 wing)
- Smooth acoustical ceiling tile with densely populated big and small pinholes (1970 wing)
- Smooth acoustical ceiling tile with small and big pinholes – confirmatory (1968 and 1970 wing)

The bulk samples were analyzed by Scientific Analytical Institute, Inc. (SAI) of Greensboro, NC. SAI is NVLAP accredited and a State of Connecticut Department of Public Health (DPH) approved laboratory for analysis by Polarized Light Microscopy (PLM). PLM is the USEPA accepted method of analysis for identification of asbestos in bulk matrices. All samples were analyzed by PLM EPA Method 600/R-93/116 and 40 CFR Part 763, Subpart E to Appendix E.

Materials containing equal to or greater than one percent ($\geq 1\%$) asbestos by PLM are defined as ACBM under state regulations. Materials containing greater than one percent ($> 1\%$) asbestos by PLM are regulated under federal regulations.

A total of thirteen (13) bulk samples were collected and analyzed. Each of the materials analyzed were confirmed to be non-ACBM. The results of the asbestos testing are summarized in the attached Asbestos-Containing Building Materials Testing Summary Tables. The asbestos analysis laboratory reports, laboratory certifications and inspector certifications are also attached.

The bulk sampling results from the October 4, 2024 inspection are not consistent with the previous bulk sampling data collected by Eagle in August, 2024 and with the information included in the school's AHERA Asbestos Management Plan. Based upon the supplemental inspection data, Eagle concludes that multiple types of ceiling tiles with similar appearance are present within the 1968 and 1970 wings of the building. At the time of the previous inspections, to limit disturbance to the presumed asbestos ceiling tile panels, Eagle did not inspect the top sides of ceiling tile panels to determine if a manufacturer's stamp or other distinguishing characteristic was present which could potentially further separate the ceiling tile applications into distinct homogenous applications.

The finish face of the ceiling tiles are not visibly discernible making it difficult to visually distinguish the asbestos-containing ceiling tiles from the non-asbestos ceiling tiles. The bulk sampling indicates that the asbestos-containing ceiling tiles may only include the vertically installed tiles around the skylights. However, it is possible that the asbestos-containing ceiling tiles were intermittently installed as replacement tiles throughout the building over the course of time, but this could not be determined visually. The asbestos bulk sampling did not result in any positive results that would indicate a majority of the tiles are non-asbestos. However, as previously stated, it is possible that certain replacement tiles could be asbestos-containing. Eagle recommends that the information be provided to the Hebron Public School's Asbestos Management Planner for consideration and to establish a proposed sampling protocol for future management, maintenance and renovation work if deemed necessary by the Management Planner.

Please do not hesitate to contact us if you have any questions regarding the contents of this report.

Sincerely,
Eagle Environmental, Inc.



Report Prepared By:
Jason Eberhard
Senior Project Manager



Report Reviewed By:
Peter J. Folino
President

Z:\2024 Files\2024 Reports\Friar\Gilead School, Hebron\580 Gilead Street ACM Bulk Report - Short.docx

TABLE I

ASBESTOS CONTAINING BUILDING MATERIALS SUMMARY TABLE

**TABLE I
NON - ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
SUPPLEMENTAL BULK SAMPLING
GILEAD HILL SCHOOL
580 GILEAD STREET
HEBRON, CONNECTICUT**

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS				ESTIMATED QUANTITY	F/NF
				PLM	PLM PC	TEM NOB	ACM		
NO ASBESTOS-CONTAINING MATERIALS WERE IDENTIFIED DURING THIS INSPECTION									

TABLE II
NON-ASBESTOS CONTAINING BUILDING MATERIALS SUMMARY
TABLE

TABLE II
NON - ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
SUPPLEMENTAL BULK SAMPLING
GILEAD HILL SCHOOL
580 GILEAD STREET
HEBRON, CONNECTICUT

SAMPLE LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS			
				PLM	PLM PC	TEM NOB	ACM
1968 Wing - Classroom 5	Smooth acoustical ceiling tile with big and small pinholes with foil wrap	10-1-WP-01A	MISC	NAD			NO
		10-1-WP-01B		NAD			
1970 Wing - Classroom 24	Smooth acoustical ceiling tile with big and small pinholes - densely populated	10-1-WP-02A	MISC	NAD			NO
1970 Wing - Classroom 21		10-1-WP-02B		NAD			
		10-1-WP-02C		NAD			
		10-1-WP-02D		NAD			
1970 Wing - Classroom 20, Classroom 21	Smooth acoustical ceiling tile with small and big pinholes	10-1-WP-03A	MISC	NAD			NO
		10-1-WP-03B		NAD			
		10-1-WP-03C		NAD			
1968 Wing - Classroom 8	Smooth acoustical ceiling tile with big and small pinholes	10-1-WP-04A	MISC	NAD			NO
1968 Wing - Classroom 3		10-1-WP-04B		NAD			
		10-1-WP-04C		NAD			
		10-1-WP-04D		NAD			

APPENDIX A

ASBESTOS BULK SAMPLE LABORATORY REPORT



Bulk Asbestos Analysis

By Polarized Light Microscopy
 EPA Method: 600/R-93/116 and
 40 CFR, Part 763, Subpart E, App.E



Customer: Eagle Environmental, Inc
 8 South Main Street Suite 3
 Terryville, CT 06786

Attn: Victoria Farkas
 Breigh Ashe

Lab Order ID: 10064261

Analysis: PLM

Date Received: 10/03/2024

Date Reported: 10/07/2024

Project: Friar Architecture- Gilead Hill School- 580
 Gilead St, Hebron, CT

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
10-1-WP-01A	Smooth acoustical ceiling tile with big and small pinholes with foil wrap	None Detected	60% Cellulose 20% Fiber Glass	10% Perlite 10% Other	Gray Fibrous Homogeneous
10064261_0001					Ashed
10-1-WP-01B	Smooth acoustical ceiling tile with big and small pinholes with foil wrap	None Detected	60% Cellulose 20% Fiber Glass	10% Perlite 10% Other	Gray Fibrous Homogeneous
10064261_0002					Ashed
10-1-WP-02A	Smooth acoustical ceiling tile with densely populated big and small pinholes	None Detected	60% Cellulose 20% Fiber Glass	10% Perlite 10% Other	Gray Fibrous Homogeneous
10064261_0003					Ashed
10-1-WP-02B	Smooth acoustical ceiling tile with densely populated big and small pinholes	None Detected	60% Cellulose 20% Fiber Glass	10% Perlite 10% Other	Gray Fibrous Homogeneous
10064261_0004					Ashed
10-1-WP-02C	Smooth acoustical ceiling tile with densely populated big and small pinholes	None Detected	60% Cellulose 20% Fiber Glass	10% Perlite 10% Other	Gray Fibrous Homogeneous
10064261_0005					Ashed
10-1-WP-02D	Smooth acoustical ceiling tile with densely populated big and small pinholes	None Detected	60% Cellulose 20% Fiber Glass	10% Perlite 10% Other	Gray Fibrous Homogeneous
10064261_0006					Ashed
10-1-WP-03A	Smooth acoustical ceiling tile with small and big pinholes - confirmatory	None Detected	60% Cellulose 20% Fiber Glass	10% Other 10% Perlite	Gray Fibrous Homogeneous
10064261_0007					Ashed
10-1-WP-03B	Smooth acoustical ceiling tile with small and big pinholes - confirmatory	None Detected	60% Cellulose 20% Fiber Glass	10% Other 10% Perlite	Gray Fibrous Homogeneous
10064261_0008					Ashed

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogenous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Jalen Moore (13)

Analyst

Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
 EPA Method: 600/R-93/116 and
 40 CFR, Part 763, Subpart E, App.E



Customer: Eagle Environmental, Inc
 8 South Main Street Suite 3
 Terryville, CT 06786

Attn: Victoria Farkas
 Breigh Ashe

Lab Order ID: 10064261

Analysis: PLM

Date Received: 10/03/2024

Date Reported: 10/07/2024

Project: Friar Architecture- Gilead Hill School- 580
 Gilead St, Hebron, CT

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
10-1-WP-03C	Smooth acoustical ceiling tile with small and big pinholes - confirmatory	None Detected	60% Cellulose 20% Fiber Glass	10% Other 10% Perlite	Gray Fibrous Homogeneous
10064261_0009					Ashed
10-1-WP-04A	Smooth acoustical ceiling tile with small and big pinholes - confirmatory	None Detected	60% Cellulose 20% Fiber Glass	10% Perlite 10% Other	Gray Fibrous Homogeneous
10064261_0010					Ashed
10-1-WP-04B	Smooth acoustical ceiling tile with small and big pinholes - confirmatory	None Detected	60% Cellulose 20% Fiber Glass	10% Other 10% Perlite	Gray Fibrous Homogeneous
10064261_0011					Ashed
10-1-WP-04C	Smooth acoustical ceiling tile with small and big pinholes - confirmatory	None Detected	60% Cellulose 20% Fiber Glass	10% Perlite 10% Other	Gray Fibrous Homogeneous
10064261_0012					Ashed
10-1-WP-04D	Smooth acoustical ceiling tile with small and big pinholes - confirmatory	None Detected	60% Cellulose 20% Fiber Glass	10% Perlite 10% Other	Gray Fibrous Homogeneous
10064261_0013					Ashed


Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogenous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Jalen Moore (13)

Analyst

Approved Signatory

10064261

Client:	Eagle Environmental, Inc.	*Instructions: Use Column "B" for your contact info	
Contact:	Victoria Farkas, Breigh Ashe		
Address:	8 South Main Street, Terryville, CT	To See an Example Click the bottom Example Tab.	Scientific Analytical Institute
Phone:	860-589-8257		
Fax:	860-585-7034	Enter samples between "<<" and ">>" Begin Samples with a "<<" above the first sample and end with a ">>" below the last sample. Only Enter your data on the first sheet "Sheet1"	4604 Dundas Drive Greensboro, NC 27407 Phone: 336.292.3888 Fax: 336.292.3313 Email: lab@sailab.com
Email:	vfarkas@eagleenviro.com bashe@eagleenviro.com		
Project:	Friar Architecture- Gilead Hill School- 580 Gilead St, Hebron, CT	Note: Data 1 and Data 2 are optional fields that do not show up on the official report, however they will be included in the electronic data returned to you to facilitate your reintegration of the report data.	
Client Notes:	Please stop on first positive in set Please do not split samples		
P.O. #:	24-065.12T1		
Date Submitted:	10/2/2024 0:00		
Analysis:	PLM EPA 600R - 93/116		
TurnAroundTime	48 Hr		

Sample Number	Data 1	Sample Description	Data 2
<<			
10-1-WP-01A		Smooth acoustical ceiling tile with big and small pinholes with foil wrap	1968 Wing - Classroom 5
10-1-WP-01B		Smooth acoustical ceiling tile with big and small pinholes with foil wrap	1968 Wing - Classroom 5
10-1-WP-02A		Smooth acoustical ceiling tile with densely populated big and small pinholes	1970 Wing - Classroom 24
10-1-WP-02B		Smooth acoustical ceiling tile with densely populated big and small pinholes	1970 Wing - Classroom 24
10-1-WP-02C		Smooth acoustical ceiling tile with densely populated big and small pinholes	1970 Wing - Classroom 21
10-1-WP-02D		Smooth acoustical ceiling tile with densely populated big and small pinholes	1970 Wing - Classroom 21
10-1-WP-03A		Smooth acoustical ceiling tile with small and big pinholes - confirmatory	1970 Wing - Classroom 21
10-1-WP-03B		Smooth acoustical ceiling tile with small and big pinholes - confirmatory	1970 Wing - Classroom 21
10-1-WP-03C		Smooth acoustical ceiling tile with small and big pinholes - confirmatory	1970 Wing - Classroom 20

Relinquished By

Will Retz

Accepted

Rejected

Received By

C-J 10/3. 10:30AM

10064261

10-1-WP-04A		Smooth acoustical ceiling tile with small and big pinholes - confirmatory	1968 Wing - Classroom 8
10-1-WP-04B		Smooth acoustical ceiling tile with small and big pinholes - confirmatory	1968 Wing - Classroom 8
10-1-WP-04C		Smooth acoustical ceiling tile with small and big pinholes - confirmatory	1968 Wing - Classroom 3
10-1-WP-04D		Smooth acoustical ceiling tile with small and big pinholes - confirmatory	1968 Wing - Classroom 3

>>

Relinquished By

Will Petz

Received By

APPENDIX B

**EAGLE ENVIRONMENTAL INC. LICENSES AND LABORATORY
CERTIFICATES**



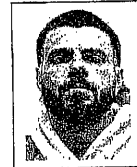
CERTIFICATE OF ACHIEVEMENT

This certifies that

William Petrucci

has successfully completed the
24 Hour Asbestos Site Inspector Initial Training
Asbestos Accreditation Under TSCA Title II
40 CFR Part 763

conducted by:
ATLAS Technical Consultants, LLC
73 William Franks Drive
West Springfield, MA 01089
(413) 781-0070



Gregory J. Morach

Gregory J. Morach

Principal Instructor: Gregory Morach

Regional Training Director: Gregory Morach

January 29-31, 2024
Date of Course

SI-2165
Certificate Number

January 31, 2025
Expiration Date

January 31, 2024
Examination Date

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED
BY THIS DEPARTMENT AS A
ASBESTOS CONSULTANT-INSPECTOR

WILLIAM G PETRUCCI

CERTIFICATE NO.
001213

CURRENT THROUGH
07/31/25

VALIDATION NO.
03-132781

William Petrucci
SIGNATURE

Matthew Zetser
COMMISSIONER

State of Connecticut, Department of Public Health

Approved Environmental Laboratory

THIS IS TO CERTIFY THAT THE LABORATORY DESCRIBED BELOW HAS BEEN APPROVED BY THE STATE DEPARTMENT OF PUBLIC HEALTH PURSUANT TO APPLICABLE PROVISIONS OF THE PUBLIC HEALTH CODE AND GENERAL STATUTES OF CONNECTICUT, FOR MAKING THE EXAMINATIONS, DETERMINATIONS OR TESTS SPECIFIED BELOW WHICH HAVE BEEN AUTHORIZED IN WRITING BY THAT DEPARTMENT.

SCIENTIFIC ANALYTICAL INSTITUTE, INC.

LOCATED AT 4604 DUNDAS DRIVE IN GREENSBORO, NC 27407

AND REGISTERED IN THE NAME OF NATHANIEL DURHAM

THIS CERTIFICATE IS ISSUED IN THE NAME OF NATHANIEL DURHAM WHO HAS BEEN DESIGNATED BY THE REGISTERED OWNER/AUTHORIZED AGENT TO BE IN CHARGE OF THE LABORATORY WORK COVERED BY THIS CERTIFICATE OF APPROVAL AS FOLLOWS:

DRINKING WATER
Examination For:
ASBESTOS

ENVIRONMENTAL HEALTH & HOUSING
LEAD IN PAINT
LEAD (PAINT) IN SOIL
LEAD IN DUST WIPES

BUILDING MATERIALS
Examination For:
ASBESTOS FIBERS – PCM, TEM
ASBESTOS IN BULK – PLM, TEM

SEE CERTIFIED PARAMETER LIST FOR SPECIFIC TESTS APPROVED

EFFECTIVE RENEWAL DATE JANUARY 1, 2024

THIS CERTIFICATE EXPIRES DECEMBER 31, 2025 AND IS REVOCABLE FOR CAUSE BY THE STATE DEPARTMENT OF PUBLIC HEALTH

DATED AT HARTFORD, CONNECTICUT, THIS 8th DAY OF December, 2023



Registration No.

PH-0336

Lori J. Mathieu
Public Health Branch Chief