

SECTION 00 01 01

PROJECT MANUAL

ISSUED FOR BID

FOR

UPTON HASTINGS BATHROOM RENOVATION

UNIVERSITY OF SOUTHERN MAINE

March 31, 2026

Prepared by:

Oak Point Associates

END OF SECTION 00 01 01

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UPTON-HASTINGS BATHROOM RENOVATIONS
UNIVERSITY OF SOUTHERN MAINE
GORHAM, ME

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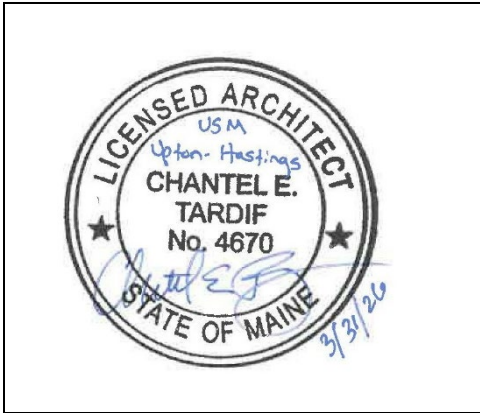
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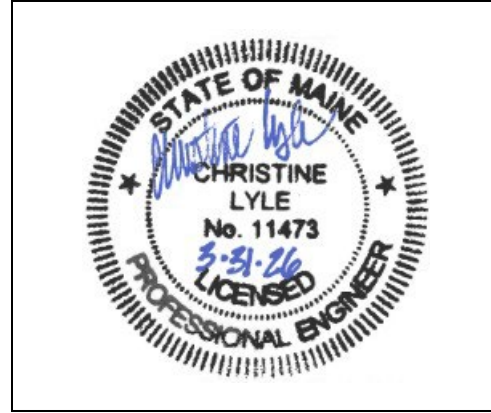
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Chantel Tardif, AIA, Architect



Christine Lyle, P.E., Mechanical Engineer



Kelly O'Brien, P.E., Electrical Engineer

SECTION 00 01 15
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END OF SECTION 00 01 15

SECTION 00 11 13
ADVERTISEMENT FOR BIDS

Bids for: **UPTON HASTINGS BATHROOM RENOVATION**

Shall be submitted electronically to cppmquestions@maine.edu
With the following Email Subject Line: **Upton Hastings Bathroom Renovation**

Bids will be received until **2:00PM on Thursday, May 7, 2026**, at which time Bids will be opened and read aloud via Zoom.

Bid opening attendance is available via PC, Mac, Linux, iOS or Android:
[Zoom](https://maine.zoom.us/j/85124234693?pwd=hZXw36KsZDPbTk9YyVSeQUMFlmtwPq.1&jst=2) Link: <https://maine.zoom.us/j/85124234693?pwd=hZXw36KsZDPbTk9YyVSeQUMFlmtwPq.1&jst=2>
Password: 406319
Or via telephone US: (US) +1 360-209-5623
Meeting ID: 85124234693

Bids received after the stated time will not be considered and will be returned unopened.

Electronic bid submission must be accompanied by a copy of a satisfactory Bid Bond for 5% of the Bid (checks will not be accepted) which shall be in conformity with the form of Bond contained in Section 00 43 13 of the Specifications. Upon determination of the apparent low bidder, the University will contact the low bidder and request an original hard copy of the bid bond be delivered within 72 hours. The University reserves the right to waive all formalities and reject any or all bids or to accept any bids. Scholarships, donations or gifts to the University will not be considered in the evaluation of responses.

Electronic Bid Submission Requirements:

A **SIGNED** virus-free electronic bid form must be submitted as follows:

- The bid and bid bond must be submitted electronically as a single PDF file to the email address shown above.
- Electronic submission must be received by the required **Date/Time** reflected above.

The successful Bidder will be required to furnish a 100% Performance Bond and a 100% Payment Bond to cover the execution of the Contract which shall be in conformity with the form of Bonds contained in Sections 00 61 13.13 and 00 61 13.16, respectively, of the Specifications and shall be for the Contract amount.

Bidders may attend a non-mandatory pre-bid meeting on Tuesday, April 14, 2026 at 9:30AM. Attendees are to meet in the Upton Hastings lobby. Copies of plans and specifications will not be available at the pre-bid meeting. Acquiring or reviewing plans and specifications prior to the meeting is advised.

Project Summary: The project consists of replacement of shower partitions and related work in the existing group shower rooms in Upton Hastings Hall.

Any questions related to the plans and specifications must be submitted prior to 2:00PM on Monday, April 24, 2026, via email to David Burrows, Project Manager, University of Southern Maine; cppmquestions@maine.edu

Bid advertised: April 3, April 4, April 5, 2026
Non-mandatory pre-bid meeting: Tuesday April 14, 2026 9:30 – 10:30
Questions due by: Friday, April 24, 2026 2 PM
Response to questions due by: Friday, May 1, 2026 4 PM
Bids received until (bid opening): Thursday, May 7, 2026 2 PM

The University of Maine System is an EEO/AA institution and does not discriminate on the grounds of race, color, religion, sex, sexual orientation, transgender status, gender, gender identity or expression, ethnicity, national origin, citizenship status, familial status, ancestry, age, disability physical or mental, genetic information, veteran or military status in employment, education, and all other programs and activities. The following person has been designated to handle inquiries regarding non-discrimination policies: Director of Equal Opportunity, 5713 Chadbourne Hall, Room 412, University of Maine, Orono, ME 04469-5754, 207.581.1226, TTY 711 (Maine Relay System). The University provides reasonable accommodation to qualified individuals with disabilities upon request. General contractors, subcontractors, and product suppliers bidding on this project must subscribe and adhere to the same.

UNIVERSITY OF MAINE SYSTEM
by and through
UNIVERSITY OF SOUTHERN MAINE
Justin Swift, Chief Business Officer, for
University of Maine System Board of Trustees

END OF SECTION 00 11 13

SECTION 00 21 13
INSTRUCTIONS TO BIDDERS

1. At the time of the opening of bids, each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and contract documents, including all addenda. The failure or omission of any bidder to receive or examine any form, instrument, or document shall not relieve any bidder from any obligation in respect to the bid. The Owner reserves the right to accept or reject any or all bids as may best serve the interests of the University of Maine System.
2. Subject to the University System's right, reserved herein, to accept or reject any or all bids, the General Contractor will be selected on the basis of the sum of the lowest base bid, plus such of the alternates as the University System desires to use.
3. The University System is exempt from the payment of Federal Excise Taxes on articles not for resale and the Federal Transportation Tax on all shipments. The Contractor shall quote less these taxes. Upon application, exemption certificates will be furnished when required.
4. No proposal may be withdrawn during a period of thirty (30) calendar days immediately following the opening thereof.
5. No contract may be assigned, sublet or transferred without the written consent of the University of Maine System.
6. All individuals not residents of this State must comply with the provisions of 14 MRSA §704-A.
7. The successful bidder, or bidders, will be required to furnish 100% Contract Bonds to cover the execution of the contract, in accordance with the AIA Document A101 - 2017 Exhibit A and Article 11 of the AIA Document A201 – 2017 General Conditions of the Contract for Construction.
8. Contractors may be required to furnish a statement of their business experience, record of accomplishments, and financial responsibility, at the discretion of the University System.
9. The base bid shall be based on the materials, methods, equipment and products, as specified.
10. Bidders shall submit the bid on the Bid Form provided in the Specifications, Section 00 41 13.
11. Any materials, methods, equipment and products not herein specified, but worthy of consideration by any General or Subcontractor, may be introduced by a separate letter attached to the regular bid. The Bidder shall state the cost comparison with the specified materials, methods, equipment and products, and the reason for the suggested substitution. It shall be understood by all bidders that the attached letter proposing substitutions shall not be used to determine the low bidder and that all bids are based on specified products.
12. Telegraphic or facsimile proposals will not be considered, but modification of proposals already submitted will be considered if received prior to the hour set for receipt of proposals. If the telegram or facsimile discloses the amount of the proposal, the proposal will be declared invalid. The bidder bears full responsibility to assure that the correction is delivered to the proper location and within the time required.
13. Where a bidder wishes a product to be considered an "approved equal" for bidding purposes, the product, along with all supporting documentation, shall be submitted to the architect for review a minimum of 10 calendar days prior to the bid opening date or the file bid due date, if file bids are required on the project. Products which are determined to be an "approved equal" for bidding purposes shall be listed in an addendum issued so as to be received by bidders no less than 72 hours prior to the bid date or the file bid due date if file bids are required.
14. Where the Bid Form requires the tabulation of subcontractors other than "File Bidders," the Bidder shall list the name of the firm the bidder intends to use in the event the bidder receives the contract award.
15. Bidders may appeal the award decision by submitting a written protest to the University of Maine System

Chief Facilities and General Services Officer within five (5) business days of the date of the award notice (Notice of Award) with a copy of the protest to the successful bidder. The protest must contain a statement of the basis for the challenge.

END OF SECTION 00 21 13

SECTION 00 41 13
BID FORM – SHORT FORM

BIDDER: _____
Physical/Street Address _____
City, State ZIP _____

University of Maine System
Office of Facilities Management
5765 Service Building
Orono ME 04469-5765

Having carefully examined the form of contract, general conditions and plans and specifications contained therein for Upton Hastings Bathroom Renovation, as well as the premises and conditions affecting the work, we the undersigned propose to furnish all labor, equipment, and materials necessary for and reasonably incidental to the construction and completion of this contract for the sum of _____ Dollars (\$ _____).

This proposal includes the cost of 100% Performance Bond plus 100% Payment Bond.

The receipt of the following addenda to plans and specifications is hereby acknowledged:

ADDENDUM # _____ DATED _____ ADDENDUM # _____ DATED _____
ADDENDUM # _____ DATED _____ ADDENDUM # _____ DATED _____

Any material or materials not specified in the bidding document but worthy of consideration may be introduced by the bidder by a separate letter attached to this Bid. A cost comparison must be included giving the comparison with the Material specified and the reason for the suggested substitution. The basic bid shall be as specified.

The undersigned agrees, if this Bid is accepted to sign a contract and deliver it, along with the bonds and affidavits for all insurance specified within twelve (12) calendar days after the date of notification of such acceptance, except if the 12th day falls on a Saturday, Sunday or holiday, then the conditions will be fulfilled if the required documents are received before 12 o'clock noon on the day following the holiday, or the Monday following the Saturday or Sunday, and as a guarantee thereof, herewith submits a bid bond as required.

The undersigned agrees, if awarded the Contract, to substantially complete the work on or before August 21, 2026. The undersigned also agrees, if awarded the Contract, that no more than 80% of the contract amount will be sublet to other contractors.

Signed (by individual authorized to sign contract) _____

By (printed name & title) _____ Phone _____

PO Box (if applicable) _____ Email _____

NOTE: If bidder is a corporation, write State of Incorporation, and if a partnership, give full names of all partners.

END OF SECTION 00 41 13

SECTION 00 43 13

BID SECURITY FORM

KNOW ALL BY THESE PRESENTS, THAT WE, the undersigned, as PRINCIPAL _____, and _____ as SURETY, are hereby held and firmly bound unto the Treasurer of the UNIVERSITY OF MAINE SYSTEM in the penal sum of _____ 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 UNIVERSITY OF MAINE SYSTEM, BY AND THROUGH THE UNIVERSITY OF MAINE, a certain proposal, attached hereto and hereby made a part hereof, to enter into a contract in writing for the [and INSERT PROJECT NAME HERE].

NOW THEREFORE,

- (a) If said proposal shall be rejected, or, in the alternate
(b) If said proposal shall be accepted and the Principal shall execute and deliver a contract in the form of contract attached hereto (properly completed in accordance with said proposal) and shall furnish a bond for faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said proposal, 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 obligation of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the principal may accept such proposal: and said Surety does hereby waive notice of any such extension.

In the event suit is brought upon this bond by the Treasurer of the UNIVERSITY OF MAINE SYSTEM, Surety shall pay reasonable attorneys' fees and costs incurred by the Treasurer of the UNIVERSITY OF MAINE SYSTEM in such suit.

IN WITNESS WHEREOF, the Principal and 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 above.

PRINCIPAL: _____

By: _____ L.S.

SURETY: _____

SURETY ADDRESS: _____

By: _____ L.S.

DO NOT ALTER LANGUAGE

END OF SECTION 00 43 13

SECTION 00 51 00

NOTICE OF AWARD

DATE

Vendor Name
Vendor Address.
Vendor Address

RE: ***NOTICE OF AWARD – PROJECT NAME***
UNIVERSITY OF SOUTHERN MAINE

Dear (vendor name),

You are hereby notified that the University of Maine System, by and through the University of Southern Maine, accepts your Bid of **\$00.00** for the above named project, subject to final resolution of any bid protests and the parties' ability to establish and confirm final terms, as well as the execution of a written contract and your furnishing satisfactory bonds within twelve (12) calendar days as provided in the bidding documents.

This Notice of Award will permit you to proceed with the ordering of materials and scheduling the work so that the project can be completed on time. Should you fail to execute a contract or furnish satisfactory bonds within the stipulated time, the bid bond accompanying your proposal will be forfeited to the University of Maine System as liquidated damages.

Enclosed is your contract agreement for signature. Further, please have your surety provide one original each of the Performance Bond and the Payment Bond, as prescribed in Sections 00 61 13.13 and 00 61 13.16 of the bid document, and a properly executed "Power of Attorney." Please advise your surety agent that the bonds should carry the same date as this Notice of Award and the Contract Agreement. **All originals of the signed contract, bonds and insurance certificates should be forwarded directly to Sandra Binette, Capital Contracts Administrator, 5765 Service Building, Orono, ME 04469.** Once it is completely signed, a copy of the contract will be returned for your use.

Prior to the start of any work on the construction site, Capital Planning and Project Management must receive Certificates of Liability Insurance as specified in Article A.3 of the AIA Document A101 – 2017 Exhibit A, Insurance and Bonds. Please advise your surety that the certificate holder should be as follows: University of Maine System; Office of Risk Management; Robinson Hall, 46 University Drive, Augusta, ME 04330.

The day-to-day administrative and technical details of this project will be handled by the Architect/Engineer, insert name here. All correspondence relative to the day-to-day administration of the project should be directed to insert name, insert title, insert email; 207-000-0000.

A pre-construction conference on this project will be scheduled as soon as possible. This conference must be attended by your firm's authorized representative as well as your project superintendent.

Sincerely,

Justin Swift
Chief Business Officer

Enclosures

END OF SECTION 00 51 00

**SAMPLE
UNIVERSITY OF MAINE SYSTEM
Construction Contract Agreement**

THIS AGREEMENT is made and entered into the _____ day of _____, 20____, by and between the Contractor, _____, and the University of Maine System acting by and through the University of Southern Maine, PO Box 9300, Portland, ME 04104, hereinafter called the Owner.

WITNESSETH: That the Owner and the Contractor for the considerations hereinafter named agree as follows:

ARTICLE 1. SCOPE OF THE WORK

The Contractor shall furnish all of the materials and perform all of the work described in the Contract Documents entitled [INSERT PROJECT NAME HERE], prepared by [Insert name of Architect/Engineer here], acting as and in these Contract Documents entitled the Architect and/or Engineer.

ARTICLE 2: START AND TIME OF COMPLETION

The date of the commencement of work shall be the date of this Agreement and shall be substantially completed on or before _____ subject to adjustments as provided in the Contract Documents.

The Contractor and the Contractor’s surety, if any, shall be liable for and shall pay the Owner the following stipulated liquidated damages for each calendar day of delay after the date established for Substantial Completion until the Work is substantially complete: _____ Dollars (\$ _____) per calendar day.

ARTICLE 3: THE CONTRACT SUM

The Owner shall pay the Contractor for the performance of the Contract as follows _____ Dollars, \$ (____), subject to adjustments as provided in the Contract Documents.

The Contract Sum is based upon the following Alternates and Unit Prices, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

| | | | | | |
|---------------|-------|---------------|-------|---------------|-------|
| Alternate (1) | _____ | Alternate (2) | _____ | Alternate (3) | _____ |
| Unit Prices | | | | | |
| Item | _____ | Price | _____ | | |
| Item | _____ | Price | _____ | | |

Final payment shall be made after completion and acceptance of the work as provided in the Contract Documents.

ARTICLE 4: THE CONTRACT DOCUMENTS

The Contract Documents for this project, except for modifications issued after execution of this agreement, consist of:

- .1 This agreement.
- .2 AIA Document A201-2017, General Conditions of the Contract for Construction, as modified by the Owner.

- .3 AIA A101 – 2017, Exhibit A, Insurance and Bonds, as modified by the Owner.
- .4 The Specifications as outlined in the Project Manual: [Insert Name of Project Here], dated _____.
- .5 The Drawings as listed in the Project Manual.
- .6 The Addenda: Addendum 01 dated _____.
- .7 Exhibit B, Contractor’s Proposal dated _____.

ARTICLE 5: OWNER’S REPRESENTATIVES

The Owner’s Representative on this project will be _____, who is authorized to sign contracts and other legal documents related to this project on behalf of the Owner.

The Owner’s Project Manager on this project will be _____.

The Owner and the Contractor hereby agree to the full performance of the covenants herein.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first above written.

UNIVERSITY OF MAINE SYSTEM
by and through
University of Maine

Company

Company

By: _____
[Insert Signatory Name]
[Insert Signatory Title]
University of Maine

By: _____

END OF SECTION 00 52 13

SECTION 00 61 13.13

PERFORMANCE BOND FORM

Bond No. _____

KNOW ALL BY THESE PRESENTS THAT (1) _____ (2) _____ of _____ and State of _____, as PRINCIPAL, and (3) _____ a corporation duly organized under the laws of the State of _____ and having a usual place of business in _____, as SURETY, are held and firmly bound unto the University of Maine System in the sum of _____ Dollars (\$ _____), to be paid said Treasurer of the University of Maine System, or successor in office, for which payment well and truly to be made, Principal and Surety bind themselves, their heirs, executors and administrators, successors and assigns, jointly and severally by these presents.

The condition of this obligation is such that if the Principal shall promptly and faithfully perform the Contract entered into on the (4) _____ day of _____, A.D., 20____ for the construction of (5) _____

then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the University of Maine System.

Signed and sealed this (4) _____ day of _____, 20_____.

WITNESSES:

SIGNATURES:

_____ LS
_____ LS
_____ LS

Bonding Company Agent:

Company: _____

Street: _____

City, State, Zip: _____

Telephone: _____

- (1) Correct name of Contractor.
- (2) A corporation, a partnership, or an individual, as the case may be.
- (3) Correct name of Surety.
- (4) Same date as that of contract.
- (5) Name of Project as designated in contract.

If Contractor is a partnership, all partners should execute bond. A Power of Attorney document, together with a statement that it still is in effect shall be provided by the person executing this bond. Bond must be countersigned by a Resident Maine Agent.

****DO NOT ALTER LANGUAGE****

END OF SECTION 00 61 13.13

SECTION 00 61 13.16
PAYMENT BOND FORM

Bond No. _____

KNOW ALL BY THESE PRESENTS THAT (1) _____
_____ (2) _____
of _____ and State of _____, as PRINCIPAL,
and (3) _____,
a corporation duly organized under the laws of the State of _____ and
having a usual place of business in _____, as SURETY, are held
and firmly bound unto the University of Maine System in the sum of _____
_____ Dollars
(\$ _____), for the use and benefit of claimants* as herein below defined, for the
payment whereof Principal and Surety bind themselves, their heirs, executors and administrators, successors
and assigns, jointly and severally by these presents.

The condition of this obligation is such that if the Principal shall promptly satisfy all claims and demands
incurred for all labor and materials used or required by the Principal in connection with the work contemplated
in the Contract entered into on the (4) _____ day of _____, A.D., 20 _____ for the
construction of (5) _____,
_____,
and shall fully reimburse the obligee for all outlay and expense which said obligee may incur in making good
any default of said principal, then this obligation shall be null and void; otherwise, it shall remain in full force
and effect.

*A Claimant is defined as one having a direct contract with the Principal or with a subcontractor of the
Principal for labor, material, or both, used or reasonably required for use in the performance of the contract.

Signed and sealed this (6) _____ day of _____, 20 _____.

WITNESSES:

SIGNATURES:

_____ LS
_____ LS
_____ LS

Bonding Company Agent:

Company: _____

Street: _____

City, State, Zip: _____

Telephone: _____

- (1) Correct name of Contractor.
- (2) A corporation, a partnership, or an individual, as the case may be.
- (3) Correct name of Surety.
- (4) Same date as that of contract.
- (5) Name of Project as designated in contract.
- (6) Same date as that of Contract.

If contractor is a partnership, all partners should execute bond. A Power of Attorney document, together with a
statement that it still is in effect shall be provided by the person executing this bond. Bond must be
countersigned by a Resident Maine Agent.

****DO NOT ALTER LANGUAGE****

END OF SECTION 00 61 13.16



AIA[®] Document G715™ – 2017

Supplemental Attachment for ACORD Certificate of Insurance 25

| | | |
|--|--|---|
| PROJECT: <i>(name and address)</i> Samples | CONTRACT INFORMATION: Contract For: Date: | CERTIFICATE INFORMATION: Producer: Insured: Date: |
| OWNER: <i>(name and address)</i> University of Maine System by and through University of Maine 5765 Service Building Orono, ME 04469 | ARCHITECT: <i>(name and address)</i> | CONTRACTOR: <i>(name and address)</i> |

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

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

(Authorized Representative)

(Date of Issue)

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YY)

| | |
|---------------------------------------|---|
| PRODUCER INSURED | <p>THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.</p> <p style="text-align: center;">INSURERS AFFORDING COVERAGE</p> <p>INSURER A: INSURER B: INSURER C: INSURER D: INSURER E:</p> |
|---------------------------------------|---|

COVERAGES

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

| INSR LTR | TYPE OF INSURANCE | POLICY NUMBER | POLICY EFFECTIVE DATE (MM/DD/YY) | POLICY EXPIRATION DATE (MM/DD/YY) | LIMITS | | | | | | | | |
|--------------------------------|--|---------------|----------------------------------|-----------------------------------|--|----------------------|--------|-----------------------|--|-------------------------------|--|--------------------------------|--|
| | GENERAL LIABILITY <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC | | | | EACH OCCURRENCE \$ FIRE DAMAGE (Any one fire) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$ | | | | | | | | |
| | AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS | | | | COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ | | | | | | | | |
| | GARAGE LIABILITY <input type="checkbox"/> ANY AUTO | | | | AUTO ONLY - EA ACCIDENT \$ OTHER THAN EA ACC \$ AUTO ONLY: AGG \$ | | | | | | | | |
| | EXCESS LIABILITY <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> DEDUCTIBLE <input type="checkbox"/> RETENTION \$ | | | | EACH OCCURRENCE \$ AGGREGATE \$ \$ \$ \$ | | | | | | | | |
| | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY | | | | <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">WC STATU-TORY LIMITS</td> <td style="width:50%; text-align: center;">OTH-ER</td> </tr> <tr> <td colspan="2">E.L. EACH ACCIDENT \$</td> </tr> <tr> <td colspan="2">E.L. DISEASE - EA EMPLOYEE \$</td> </tr> <tr> <td colspan="2">E.L. DISEASE - POLICY LIMIT \$</td> </tr> </table> | WC STATU-TORY LIMITS | OTH-ER | E.L. EACH ACCIDENT \$ | | E.L. DISEASE - EA EMPLOYEE \$ | | E.L. DISEASE - POLICY LIMIT \$ | |
| WC STATU-TORY LIMITS | OTH-ER | | | | | | | | | | | | |
| E.L. EACH ACCIDENT \$ | | | | | | | | | | | | | |
| E.L. DISEASE - EA EMPLOYEE \$ | | | | | | | | | | | | | |
| E.L. DISEASE - POLICY LIMIT \$ | | | | | | | | | | | | | |
| | OTHER | | | | | | | | | | | | |

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

University of Maine System is named an additional insured under General Liability.
 Project:

| | |
|---|--|
| CERTIFICATE HOLDER University of Maine System Office of Risk Management Robinson Hall 46 University Drive Augusta, ME 04330 | ADDITIONAL INSURED; INSURER LETTER: _____ CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL _____ DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE |
|---|--|

IMPORTANT

If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

DISCLAIMER

The Certificate of Insurance on the reverse side of this form does not constitute a contract between the issuing insurer(s), authorized representative or producer, and the certificate holder, nor does it affirmatively or negatively amend, extend or alter the coverage afforded by the policies listed thereon.

Sample

COMMERCIAL GENERAL LIABILITY COVERAGE FORM

Various provisions in this policy restrict coverage. Read the entire policy carefully to determine rights, duties and what is and is not covered.

Throughout this policy the words "you" and "your" refer to the Named Insured shown in the Declarations, and any other person or organization qualifying as a Named Insured under this policy. The words "we", "us" and "our" refer to the company providing this insurance.

The word "insured" means any person or organization qualifying as such under Section II – Who Is An Insured.

Other words and phrases that appear in quotation marks have special meaning. Refer to Section V – Definitions.

SECTION I – COVERAGES

COVERAGE A BODILY INJURY AND PROPERTY DAMAGE LIABILITY

1. Insuring Agreement

a. We will pay those sums that the insured becomes legally obligated to pay as damages because of "bodily injury" or "property damage" to which this insurance applies. We will have the right and duty to defend the insured against any "suit" seeking those damages. However, we will have no duty to defend the insured against any "suit" seeking damages for "bodily injury" or "property damage" to which this insurance does not apply. We may, at our discretion, investigate any "occurrence" and settle any claim or "suit" that may result. But:

- (1) The amount we will pay for damages is limited as described in Section III – Limits Of Insurance; and
- (2) Our right and duty to defend ends when we have used up the applicable limit of insurance in the payment of judgments or settlements under Coverages A or B or medical expenses under Coverage C.

No other obligation or liability to pay sums or perform acts or services is covered unless explicitly provided for under Supplementary Payments – Coverages A and B.

b. This insurance applies to "bodily injury" and "property damage" only if:

- (1) The "bodily injury" or "property damage" is caused by an "occurrence" that takes place in the "coverage territory";
- (2) The "bodily injury" or "property damage" occurs during the policy period; and
- (3) Prior to the policy period, no insured listed under Paragraph 1. of Section II – Who Is An Insured and no "employee" authorized by you to give or receive notice of an "occurrence" or claim, knew that the "bodily injury" or "property damage" had occurred, in whole or in part. If such a listed insured or authorized "employee" knew, prior to the policy period, that the "bodily injury" or "property damage" occurred, then any continuation, change or resumption of such "bodily injury" or "property damage" during or after the policy period will be deemed to have been known prior to the policy period.

c. "Bodily injury" or "property damage" which occurs during the policy period and was not, prior to the policy period, known to have occurred by any insured listed under Paragraph 1. of Section II – Who Is An Insured or any "employee" authorized by you to give or receive notice of an "occurrence" or claim, includes any continuation, change or resumption of that "bodily injury" or "property damage" after the end of the policy period.

d. "Bodily injury" or "property damage" will be deemed to have been known to have occurred at the earliest time when any insured listed under Paragraph 1. of Section II – Who Is An Insured or any "employee" authorized by you to give or receive notice of an "occurrence" or claim:

- (1) Reports all, or any part, of the "bodily injury" or "property damage" to us or any other insurer;
- (2) Receives a written or verbal demand or claim for damages because of the "bodily injury" or "property damage"; or
- (3) Becomes aware by any other means that "bodily injury" or "property damage" has occurred or has begun to occur.

- e. Damages because of "bodily injury" include damages claimed by any person or organization for care, loss of services or death resulting at any time from the "bodily injury".

2. Exclusions

This insurance does not apply to:

a. Expected Or Intended Injury

"Bodily injury" or "property damage" expected or intended from the standpoint of the insured. This exclusion does not apply to "bodily injury" resulting from the use of reasonable force to protect persons or property.

b. Contractual Liability

"Bodily injury" or "property damage" for which the insured is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages:

- (1) That the insured would have in the absence of the contract or agreement; or
- (2) Assumed in a contract or agreement that is an "insured contract", provided the "bodily injury" or "property damage" occurs subsequent to the execution of the contract or agreement. Solely for the purposes of liability assumed in an "insured contract", reasonable attorney fees and necessary litigation expenses incurred by or for a party other than an insured are deemed to be damages because of "bodily injury" or "property damage", provided:
 - (a) Liability to such party for, or for the cost of, that party's defense has also been assumed in the same "insured contract"; and
 - (b) Such attorney fees and litigation expenses are for defense of that party against a civil or alternative dispute resolution proceeding in which damages to which this insurance applies are alleged.

c. Liquor Liability

"Bodily injury" or "property damage" for which any insured may be held liable by reason of:

- (1) Causing or contributing to the intoxication of any person;
- (2) The furnishing of alcoholic beverages to a person under the legal drinking age or under the influence of alcohol; or
- (3) Any statute, ordinance or regulation relating to the sale, gift, distribution or use of alcoholic beverages.

This exclusion applies only if you are in the business of manufacturing, distributing, selling, serving or furnishing alcoholic beverages.

d. Workers' Compensation And Similar Laws

Any obligation of the insured under a workers' compensation, disability benefits or unemployment compensation law or any similar law.

e. Employer's Liability

"Bodily injury" to:

- (1) An "employee" of the insured arising out of and in the course of:
 - (a) Employment by the insured; or
 - (b) Performing duties related to the conduct of the insured's business; or
- (2) The spouse, child, parent, brother or sister of that "employee" as a consequence of Paragraph (1) above.

This exclusion applies:

- (1) Whether the insured may be liable as an employer or in any other capacity; and
- (2) To any obligation to share damages with or repay someone else who must pay damages because of the injury.

This exclusion does not apply to liability assumed by the insured under an "insured contract".

f. Pollution

- (1) "Bodily injury" or "property damage" arising out of the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of "pollutants":
- (a) At or from any premises, site or location which is or was at any time owned or occupied by, or rented or loaned to, any insured. However, this subparagraph does not apply to:
 - (i) "Bodily injury" if sustained within a building and caused by smoke, fumes, vapor or soot produced by or originating from equipment that is used to heat, cool or dehumidify the building, or equipment that is used to heat water for personal use, by the building's occupants or their guests;
 - (ii) "Bodily injury" or "property damage" for which you may be held liable, if you are a contractor and the owner or lessee of such premises, site or location has been added to your policy as an additional insured with respect to your ongoing operations performed for that additional insured at that premises, site or location and such premises, site or location is not and never was owned or occupied by, or rented or loaned to, any insured, other than that additional insured; or
 - (iii) "Bodily injury" or "property damage" arising out of heat, smoke or fumes from a "hostile fire";
 - (b) At or from any premises, site or location which is or was at any time used by or for any insured or others for the handling, storage, disposal, processing or treatment of waste;
 - (c) Which are or were at any time transported, handled, stored, treated, disposed of, or processed as waste by or for:
 - (i) Any insured; or
 - (ii) Any person or organization for whom you may be legally responsible; or
 - (d) At or from any premises, site or location on which any insured or any contractors or subcontractors working directly or indirectly on any insured's behalf are performing operations if the "pollutants" are brought on or to the premises, site or location in connection with such operations by such insured, contractor or subcontractor. However, this subparagraph does not apply to:
 - (i) "Bodily injury" or "property damage" arising out of the escape of fuels, lubricants or other operating fluids which are needed to perform the normal electrical, hydraulic or mechanical functions necessary for the operation of "mobile equipment" or its parts, if such fuels, lubricants or other operating fluids escape from a vehicle part designed to hold, store or receive them. This exception does not apply if the "bodily injury" or "property damage" arises out of the intentional discharge, dispersal or release of the fuels, lubricants or other operating fluids, or if such fuels, lubricants or other operating fluids are brought on or to the premises, site or location with the intent that they be discharged, dispersed or released as part of the operations being performed by such insured, contractor or subcontractor;
 - (ii) "Bodily injury" or "property damage" sustained within a building and caused by the release of gases, fumes or vapors from materials brought into that building in connection with operations being performed by you or on your behalf by a contractor or subcontractor; or
 - (iii) "Bodily injury" or "property damage" arising out of heat, smoke or fumes from a "hostile fire".
 - (e) At or from any premises, site or location on which any insured or any contractors or subcontractors working directly or indirectly on any insured's behalf are performing operations if the operations are to test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of, "pollutants".

(2) Any loss, cost or expense arising out of any:

- (a) Request, demand, order or statutory or regulatory requirement that any insured or others test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of, "pollutants"; or
- (b) Claim or "suit" by or on behalf of a governmental authority for damages because of testing for, monitoring, cleaning up, removing, containing, treating, detoxifying or neutralizing, or in any way responding to, or assessing the effects of, "pollutants".

However, this paragraph does not apply to liability for damages because of "property damage" that the insured would have in the absence of such request, demand, order or statutory or regulatory requirement, or such claim or "suit" by or on behalf of a governmental authority.

g. Aircraft, Auto Or Watercraft

"Bodily injury" or "property damage" arising out of the ownership, maintenance, use or entrustment to others of any aircraft, "auto" or watercraft owned or operated by or rented or loaned to any insured. Use includes operation and "loading or unloading".

This exclusion applies even if the claims against any insured allege negligence or other wrongdoing in the supervision, hiring, employment, training or monitoring of others by that insured, if the "occurrence" which caused the "bodily injury" or "property damage" involved the ownership, maintenance, use or entrustment to others of any aircraft, "auto" or watercraft that is owned or operated by or rented or loaned to any insured.

This exclusion does not apply to:

- (1) A watercraft while ashore on premises you own or rent;
- (2) A watercraft you do not own that is:
 - (a) Less than 26 feet long; and
 - (b) Not being used to carry persons or property for a charge;
- (3) Parking an "auto" on, or on the ways next to, premises you own or rent, provided the "auto" is not owned by or rented or loaned to you or the insured;
- (4) Liability assumed under any "insured contract" for the ownership, maintenance or use of aircraft or watercraft; or

(5) "Bodily injury" or "property damage" arising out of:

- (a) The operation of machinery or equipment that is attached to, or part of, a land vehicle that would qualify under the definition of "mobile equipment" if it were not subject to a compulsory or financial responsibility law or other motor vehicle insurance law in the state where it is licensed or principally garaged; or
- (b) the operation of any of the machinery or equipment listed in Paragraph **f.(2)** or **f.(3)** of the definition of "mobile equipment".

h. Mobile Equipment

"Bodily injury" or "property damage" arising out of:

- (1) The transportation of "mobile equipment" by an "auto" owned or operated by or rented or loaned to any insured; or
- (2) The use of "mobile equipment" in, or while in practice for, or while being prepared for, any prearranged racing, speed, demolition, or stunting activity.

i. War

"Bodily injury" or "property damage", however caused, arising, directly or indirectly, out of:

- (1) War, including undeclared or civil war;
- (2) Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or
- (3) Insurrection, rebellion, revolution, usurped power, or action taken by governmental authority in hindering or defending against any of these.

j. Damage To Property

"Property damage" to:

- (1) Property you own, rent, or occupy, including any costs or expenses incurred by you, or any other person, organization or entity, for repair, replacement, enhancement, restoration or maintenance of such property for any reason, including prevention of injury to a person or damage to another's property;
- (2) Premises you sell, give away or abandon, if the "property damage" arises out of any part of those premises;
- (3) Property loaned to you;
- (4) Personal property in the care, custody or control of the insured;

- (5) That particular part of real property on which you or any contractors or subcontractors working directly or indirectly on your behalf are performing operations, if the "property damage" arises out of those operations; or
- (6) That particular part of any property that must be restored, repaired or replaced because "your work" was incorrectly performed on it.

Paragraphs (1), (3) and (4) of this exclusion do not apply to "property damage" (other than damage by fire) to premises, including the contents of such premises, rented to you for a period of 7 or fewer consecutive days. A separate limit of insurance applies to Damage To Premises Rented To You as described in Section III – Limits Of Insurance.

Paragraph (2) of this exclusion does not apply if the premises are "your work" and were never occupied, rented or held for rental by you.

Paragraphs (3), (4), (5) and (6) of this exclusion do not apply to liability assumed under a side-track agreement.

Paragraph (6) of this exclusion does not apply to "property damage" included in the "products-completed operations hazard".

k. Damage To Your Product

"Property damage" to "your product" arising out of it or any part of it.

l. Damage To Your Work

"Property damage" to "your work" arising out of it or any part of it and included in the "products-completed operations hazard".

This exclusion does not apply if the damaged work or the work out of which the damage arises was performed on your behalf by a subcontractor.

m. Damage To Impaired Property Or Property Not Physically Injured

"Property damage" to "impaired property" or property that has not been physically injured, arising out of:

- (1) A defect, deficiency, inadequacy or dangerous condition in "your product" or "your work"; or
- (2) A delay or failure by you or anyone acting on your behalf to perform a contract or agreement in accordance with its terms.

This exclusion does not apply to the loss of use of other property arising out of sudden and accidental physical injury to "your product" or "your work" after it has been put to its intended use.

n. Recall Of Products, Work Or Impaired Property

Damages claimed for any loss, cost or expense incurred by you or others for the loss of use, withdrawal, recall, inspection, repair, replacement, adjustment, removal or disposal of:

- (1) "Your product";
- (2) "Your work"; or
- (3) "Impaired property";

if such product, work, or property is withdrawn or recalled from the market or from use by any person or organization because of a known or suspected defect, deficiency, inadequacy or dangerous condition in it.

o. Personal And Advertising Injury

"Bodily injury" arising out of "personal and advertising injury".

p. Electronic Data

Damages arising out of the loss of, loss of use of, damage to, corruption of, inability to access, or inability to manipulate electronic data.

As used in this exclusion, electronic data means information, facts or programs stored as or on, created or used on, or transmitted to or from computer software, including systems and applications software, hard or floppy disks, CD-ROMS, tapes, drives, cells, data processing devices or any other media which are used with electronically controlled equipment.

Exclusions c. through n. do not apply to damage by fire to premises while rented to you or temporarily occupied by you with permission of the owner. A separate limit of insurance applies to this coverage as described in Section III – Limits Of Insurance.

COVERAGE B PERSONAL AND ADVERTISING INJURY LIABILITY

1. Insuring Agreement

- a. We will pay those sums that the insured becomes legally obligated to pay as damages because of "personal and advertising injury" to which this insurance applies. We will have the right and duty to defend the insured against any "suit" seeking those damages. However, we will have no duty to defend the insured against any "suit" seeking damages for "personal and advertising injury" to which this insurance does not apply. We may, at our discretion, investigate any offense and settle any claim or "suit" that may result. But:

- (1) The amount we will pay for damages is limited as described in Section III – Limits Of Insurance; and

- (2) Our right and duty to defend end when we have used up the applicable limit of insurance in the payment of judgments or settlements under Coverages **A** or **B** or medical expenses under Coverage **C**.

No other obligation or liability to pay sums or perform acts or services is covered unless explicitly provided for under Supplementary Payments – Coverages **A** and **B**.

- b.** This insurance applies to "personal and advertising injury" caused by an offense arising out of your business but only if the offense was committed in the "coverage territory" during the policy period.

2. Exclusions

This insurance does not apply to:

a. Knowing Violation Of Rights Of Another

"Personal and advertising injury" caused by or at the direction of the insured with the knowledge that the act would violate the rights of another and would inflict "personal and advertising injury".

b. Material Published With Knowledge Of Falsity

"Personal and advertising injury" arising out of oral or written publication of material, if done by or at the direction of the insured with knowledge of its falsity.

c. Material Published Prior To Policy Period

"Personal and advertising injury" arising out of oral or written publication of material whose first publication took place before the beginning of the policy period.

d. Criminal Acts

"Personal and advertising injury" arising out of a criminal act committed by or at the direction of the insured.

e. Contractual Liability

"Personal and advertising injury" for which the insured has assumed liability in a contract or agreement. This exclusion does not apply to liability for damages that the insured would have in the absence of the contract or agreement.

f. Breach Of Contract

"Personal and advertising injury" arising out of a breach of contract, except an implied contract to use another's advertising idea in your "advertisement".

g. Quality Or Performance Of Goods – Failure To Conform To Statements

"Personal and advertising injury" arising out of the failure of goods, products or services to conform with any statement of quality or performance made in your "advertisement".

h. Wrong Description Of Prices

"Personal and advertising injury" arising out of the wrong description of the price of goods, products or services stated in your "advertisement".

i. Infringement Of Copyright, Patent, Trademark Or Trade Secret

"Personal and advertising injury" arising out of the infringement of copyright, patent, trademark, trade secret or other intellectual property rights.

However, this exclusion does not apply to infringement, in your "advertisement", of copyright, trade dress or slogan.

j. Insureds In Media And Internet Type Businesses

"Personal and advertising injury" committed by an insured whose business is:

- (1) Advertising, broadcasting, publishing or telecasting;
- (2) Designing or determining content of websites for others; or
- (3) An Internet search, access, content or service provider.

However, this exclusion does not apply to Paragraphs **14.a.**, **b.** and **c.** of "personal and advertising injury" under the Definitions Section.

For the purposes of this exclusion, the placing of frames, borders or links, or advertising, for you or others anywhere on the Internet, is not by itself, considered the business of advertising, broadcasting, publishing or telecasting.

k. Electronic Chatrooms Or Bulletin Boards

"Personal and advertising injury" arising out of an electronic chatroom or bulletin board the insured hosts, owns, or over which the insured exercises control.

l. Unauthorized Use Of Another's Name Or Product

"Personal and advertising injury" arising out of the unauthorized use of another's name or product in your e-mail address, domain name or metatag, or any other similar tactics to mislead another's potential customers.

m. Pollution

"Personal and advertising injury" arising out of the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of "pollutants" at any time.

n. Pollution-Related

Any loss, cost or expense arising out of any:

- (1) Request, demand, order or statutory or regulatory requirement that any insured or others test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of, "pollutants"; or
- (2) Claim or suit by or on behalf of a governmental authority for damages because of testing for, monitoring, cleaning up, removing, containing, treating, detoxifying or neutralizing, or in any way responding to, or assessing the effects of, "pollutants".

o. War

"Personal and advertising injury", however caused, arising, directly or indirectly, out of:

- (1) War, including undeclared or civil war;
- (2) Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or
- (3) Insurrection, rebellion, revolution, usurped power, or action taken by governmental authority in hindering or defending against any of these.

COVERAGE C MEDICAL PAYMENTS

1. Insuring Agreement

a. We will pay medical expenses as described below for "bodily injury" caused by an accident:

- (1) On premises you own or rent;
- (2) On ways next to premises you own or rent; or
- (3) Because of your operations; provided that:
 - (1) The accident takes place in the "coverage territory" and during the policy period;
 - (2) The expenses are incurred and reported to us within one year of the date of the accident; and
 - (3) The injured person submits to examination, at our expense, by physicians of our choice as often as we reasonably require.

b. We will make these payments regardless of fault. These payments will not exceed the applicable limit of insurance. We will pay reasonable expenses for:

- (1) First aid administered at the time of an accident;
- (2) Necessary medical, surgical, x-ray and dental services, including prosthetic devices; and
- (3) Necessary ambulance, hospital, professional nursing and funeral services.

2. Exclusions

We will not pay expenses for "bodily injury":

a. Any Insured

To any insured, except "volunteer workers".

b. Hired Person

To a person hired to do work for or on behalf of any insured or a tenant of any insured.

c. Injury On Normally Occupied Premises

To a person injured on that part of premises you own or rent that the person normally occupies.

d. Workers Compensation And Similar Laws

To a person, whether or not an "employee" of any insured, if benefits for the "bodily injury" are payable or must be provided under a workers' compensation or disability benefits law or a similar law.

e. Athletics Activities

To a person injured while practicing, instructing or participating in any physical exercises or games, sports, or athletic contests.

f. Products-Completed Operations Hazard

Included within the "products-completed operations hazard".

g. Coverage A Exclusions

Excluded under Coverage A.

SUPPLEMENTARY PAYMENTS – COVERAGES A AND B

1. We will pay, with respect to any claim we investigate or settle, or any "suit" against an insured we defend:

- a. All expenses we incur.
- b. Up to \$250 for cost of bail bonds required because of accidents or traffic law violations arising out of the use of any vehicle to which the Bodily Injury Liability Coverage applies. We do not have to furnish these bonds.

- c. The cost of bonds to release attachments, but only for bond amounts within the applicable limit of insurance. We do not have to furnish these bonds.
- d. All reasonable expenses incurred by the insured at our request to assist us in the investigation or defense of the claim or "suit", including actual loss of earnings up to \$250 a day because of time off from work.
- e. All costs taxed against the insured in the "suit".
- f. Prejudgment interest awarded against the insured on that part of the judgment we pay. If we make an offer to pay the applicable limit of insurance, we will not pay any prejudgment interest based on that period of time after the offer.
- g. All interest on the full amount of any judgment that accrues after entry of the judgment and before we have paid, offered to pay, or deposited in court the part of the judgment that is within the applicable limit of insurance.

These payments will not reduce the limits of insurance.

- 2. If we defend an insured against a "suit" and an indemnitee of the insured is also named as a party to the "suit", we will defend that indemnitee if all of the following conditions are met:
 - a. The "suit" against the indemnitee seeks damages for which the insured has assumed the liability of the indemnitee in a contract or agreement that is an "insured contract";
 - b. This insurance applies to such liability assumed by the insured;
 - c. The obligation to defend, or the cost of the defense of, that indemnitee, has also been assumed by the insured in the same "insured contract";
 - d. The allegations in the "suit" and the information we know about the "occurrence" are such that no conflict appears to exist between the interests of the insured and the interests of the indemnitee;
 - e. The indemnitee and the insured ask us to conduct and control the defense of that indemnitee against such "suit" and agree that we can assign the same counsel to defend the insured and the indemnitee; and
 - f. The indemnitee:
 - (1) Agrees in writing to:
 - (a) Cooperate with us in the investigation, settlement or defense of the "suit";

- (b) Immediately send us copies of any demands, notices, summonses or legal papers received in connection with the "suit";
 - (c) Notify any other insurer whose coverage is available to the indemnitee; and
 - (d) Cooperate with us with respect to coordinating other applicable insurance available to the indemnitee; and
- (2) Provides us with written authorization to:
 - (a) Obtain records and other information related to the "suit"; and
 - (b) Conduct and control the defense of the indemnitee in such "suit".

So long as the above conditions are met, attorneys' fees incurred by us in the defense of that indemnitee, necessary litigation expenses incurred by us and necessary litigation expenses incurred by the indemnitee at our request will be paid as Supplementary Payments. Notwithstanding the provisions of Paragraph **2.b.(2)** of Section I – Coverage A – Bodily Injury And Property Damage Liability, such payments will not be deemed to be damages for "bodily injury" and "property damage" and will not reduce the limits of insurance.

Our obligation to defend an insured's indemnitee and to pay for attorneys' fees and necessary litigation expenses as Supplementary Payments ends when:

- a. We have used up the applicable limit of insurance in the payment of judgments or settlements; or
- b. The conditions set forth above, or the terms of the agreement described in Paragraph f. above, are no longer met.

SECTION II – WHO IS AN INSURED

- 1. If you are designated in the Declarations as:
 - a. An individual, you and your spouse are insureds, but only with respect to the conduct of a business of which you are the sole owner.
 - b. A partnership or joint venture, you are an insured. Your members, your partners, and their spouses are also insureds, but only with respect to the conduct of your business.
 - c. A limited liability company, you are an insured. Your members are also insureds, but only with respect to the conduct of your business. Your managers are insureds, but only with respect to their duties as your managers.

- d. An organization other than a partnership, joint venture or limited liability company, you are an insured. Your "executive officers" and directors are insureds, but only with respect to their duties as your officers or directors. Your stockholders are also insureds, but only with respect to their liability as stockholders.
 - e. A trust, you are an insured. Your trustees are also insureds, but only with respect to their duties as trustees.
2. Each of the following is also an insured:
- a. Your "volunteer workers" only while performing duties related to the conduct of your business, or your "employees", other than either your "executive officers" (if you are an organization other than a partnership, joint venture or limited liability company) or your managers (if you are a limited liability company), but only for acts within the scope of their employment by you or while performing duties related to the conduct of your business. However, none of these "employees" or "volunteer workers" are insureds for:
 - (1) "Bodily injury" or "personal and advertising injury":
 - (a) To you, to your partners or members (if you are a partnership or joint venture), to your members (if you are a limited liability company), to a co-"employee" while in the course of his or her employment or performing duties related to the conduct of your business, or to your other "volunteer workers" while performing duties related to the conduct of your business;
 - (b) To the spouse, child, parent, brother or sister of that co-"employee" or "volunteer worker" as a consequence of Paragraph (1)(a) above;
 - (c) For which there is any obligation to share damages with or repay someone else who must pay damages because of the injury described in Paragraphs (1)(a) or (b) above; or
 - (d) Arising out of his or her providing or failing to provide professional health care services.
 - (2) "Property damage" to property:
 - (a) Owned, occupied or used by,
 - (b) Rented to, in the care, custody or control of, or over which physical control is being exercised for any purpose by you, any of your "employees", "volunteer workers", any partner or member (if you are a partnership or joint venture), or any member (if you are a limited liability company).
 - b. Any person (other than your "employee" or "volunteer worker"), or any organization while acting as your real estate manager.
 - c. Any person or organization having proper temporary custody of your property if you die, but only:
 - (1) With respect to liability arising out of the maintenance or use of that property; and
 - (2) Until your legal representative has been appointed.
 - d. Your legal representative if you die, but only with respect to duties as such. That representative will have all your rights and duties under this Coverage Part.
 - 3. Any organization you newly acquire or form, other than a partnership, joint venture or limited liability company, and over which you maintain ownership or majority interest, will qualify as a Named Insured if there is no other similar insurance available to that organization. However:
 - a. Coverage under this provision is afforded only until the 90th day after you acquire or form the organization or the end of the policy period, whichever is earlier;
 - b. Coverage **A** does not apply to "bodily injury" or "property damage" that occurred before you acquired or formed the organization; and
 - c. Coverage **B** does not apply to "personal and advertising injury" arising out of an offense committed before you acquired or formed the organization.
- No person or organization is an insured with respect to the conduct of any current or past partnership, joint venture or limited liability company that is not shown as a Named Insured in the Declarations.

SECTION III – LIMITS OF INSURANCE

- 1. The Limits of Insurance shown in the Declarations and the rules below fix the most we will pay regardless of the number of:
 - a. Insureds;
 - b. Claims made or "suits" brought; or
 - c. Persons or organizations making claims or bringing "suits".

2. The General Aggregate Limit is the most we will pay for the sum of:
 - a. Medical expenses under Coverage **C**;
 - b. Damages under Coverage **A**, except damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard"; and
 - c. Damages under Coverage **B**.
3. The Products-Completed Operations Aggregate Limit is the most we will pay under Coverage **A** for damages because of "bodily injury" and "property damage" included in the "products-completed operations hazard".
4. Subject to 2. above, the Personal and Advertising Injury Limit is the most we will pay under Coverage **B** for the sum of all damages because of all "personal and advertising injury" sustained by any one person or organization.
5. Subject to 2. or 3. above, whichever applies, the Each Occurrence Limit is the most we will pay for the sum of:
 - a. Damages under Coverage **A**; and
 - b. Medical expenses under Coverage **C** because of all "bodily injury" and "property damage" arising out of any one "occurrence".
6. Subject to 5. above, the Damage To Premises Rented To You Limit is the most we will pay under Coverage **A** for damages because of "property damage" to any one premises, while rented to you, or in the case of damage by fire, while rented to you or temporarily occupied by you with permission of the owner.
7. Subject to 5. above, the Medical Expense Limit is the most we will pay under Coverage **C** for all medical expenses because of "bodily injury" sustained by any one person.

The Limits of Insurance of this Coverage Part apply separately to each consecutive annual period and to any remaining period of less than 12 months, starting with the beginning of the policy period shown in the Declarations, unless the policy period is extended after issuance for an additional period of less than 12 months. In that case, the additional period will be deemed part of the last preceding period for purposes of determining the Limits of Insurance.

SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS

1. Bankruptcy

Bankruptcy or insolvency of the insured or of the insured's estate will not relieve us of our obligations under this Coverage Part.

2. Duties In The Event Of Occurrence, Offense, Claim Or Suit

- a. You must see to it that we are notified as soon as practicable of an "occurrence" or an offense which may result in a claim. To the extent possible, notice should include:
 - (1) How, when and where the "occurrence" or offense took place;
 - (2) The names and addresses of any injured persons and witnesses; and
 - (3) The nature and location of any injury or damage arising out of the "occurrence" or offense.
- b. If a claim is made or "suit" is brought against any insured, you must:
 - (1) Immediately record the specifics of the claim or "suit" and the date received; and
 - (2) Notify us as soon as practicable.

You must see to it that we receive written notice of the claim or "suit" as soon as practicable.
- c. You and any other involved insured must:
 - (1) Immediately send us copies of any demands, notices, summonses or legal papers received in connection with the claim or "suit";
 - (2) Authorize us to obtain records and other information;
 - (3) Cooperate with us in the investigation or settlement of the claim or defense against the "suit"; and
 - (4) Assist us, upon our request, in the enforcement of any right against any person or organization which may be liable to the insured because of injury or damage to which this insurance may also apply.
- d. No insured will, except at that insured's own cost, voluntarily make a payment, assume any obligation, or incur any expense, other than for first aid, without our consent.

3. Legal Action Against Us

No person or organization has a right under this Coverage Part:

- a. To join us as a party or otherwise bring us into a "suit" asking for damages from an insured; or

- b. To sue us on this Coverage Part unless all of its terms have been fully complied with.

A person or organization may sue us to recover on an agreed settlement or on a final judgment against an insured; but we will not be liable for damages that are not payable under the terms of this Coverage Part or that are in excess of the applicable limit of insurance. An agreed settlement means a settlement and release of liability signed by us, the insured and the claimant or the claimant's legal representative.

4. Other Insurance

If other valid and collectible insurance is available to the insured for a loss we cover under Coverages **A** or **B** of this Coverage Part, our obligations are limited as follows:

a. Primary Insurance

This insurance is primary except when **b.** below applies. If this insurance is primary, our obligations are not affected unless any of the other insurance is also primary. Then, we will share with all that other insurance by the method described in **c.** below.

b. Excess Insurance

This insurance is excess over:

- (1) Any of the other insurance, whether primary, excess, contingent or on any other basis:
 - (a) That is Fire, Extended Coverage, Builder's Risk, Installation Risk or similar coverage for "your work";
 - (b) That is Fire insurance for premises rented to you or temporarily occupied by you with permission of the owner;
 - (c) That is insurance purchased by you to cover your liability as a tenant for "property damage" to premises rented to you or temporarily occupied by you with permission of the owner; or
 - (d) If the loss arises out of the maintenance or use of aircraft, "autos" or watercraft to the extent not subject to Exclusion **g.** of Section **I** – Coverage **A** – Bodily Injury And Property Damage Liability.
- (2) Any other primary insurance available to you covering liability for damages arising out of the premises or operations, or the products and completed operations, for which you have been added as an additional insured by attachment of an endorsement.

When this insurance is excess, we will have no duty under Coverages **A** or **B** to defend the insured against any "suit" if any other insurer has a duty to defend the insured against that "suit". If no other insurer defends, we will undertake to do so, but we will be entitled to the insured's rights against all those other insurers.

When this insurance is excess over other insurance, we will pay only our share of the amount of the loss, if any, that exceeds the sum of:

- (1) The total amount that all such other insurance would pay for the loss in the absence of this insurance; and
- (2) The total of all deductible and self-insured amounts under all that other insurance.

We will share the remaining loss, if any, with any other insurance that is not described in this Excess Insurance provision and was not bought specifically to apply in excess of the Limits of Insurance shown in the Declarations of this Coverage Part.

c. Method Of Sharing

If all of the other insurance permits contribution by equal shares, we will follow this method also. Under this approach each insurer contributes equal amounts until it has paid its applicable limit of insurance or none of the loss remains, whichever comes first.

If any of the other insurance does not permit contribution by equal shares, we will contribute by limits. Under this method, each insurer's share is based on the ratio of its applicable limit of insurance to the total applicable limits of insurance of all insurers.

5. Premium Audit

- a. We will compute all premiums for this Coverage Part in accordance with our rules and rates.
- b. Premium shown in this Coverage Part as advance premium is a deposit premium only. At the close of each audit period we will compute the earned premium for that period and send notice to the first Named Insured. The due date for audit and retrospective premiums is the date shown as the due date on the bill. If the sum of the advance and audit premiums paid for the policy period is greater than the earned premium, we will return the excess to the first Named Insured.
- c. The first Named Insured must keep records of the information we need for premium computation, and send us copies at such times as we may request.

6. Representations

By accepting this policy, you agree:

- a. The statements in the Declarations are accurate and complete;
- b. Those statements are based upon representations you made to us; and
- c. We have issued this policy in reliance upon your representations.

7. Separation Of Insureds

Except with respect to the Limits of Insurance, and any rights or duties specifically assigned in this Coverage Part to the first Named Insured, this insurance applies:

- a. As if each Named Insured were the only Named Insured; and
- b. Separately to each insured against whom claim is made or "suit" is brought.

8. Transfer Of Rights Of Recovery Against Others To Us

If the insured has rights to recover all or part of any payment we have made under this Coverage Part, those rights are transferred to us. The insured must do nothing after loss to impair them. At our request, the insured will bring "suit" or transfer those rights to us and help us enforce them.

9. When We Do Not Renew

If we decide not to renew this Coverage Part, we will mail or deliver to the first Named Insured shown in the Declarations written notice of the non-renewal not less than 30 days before the expiration date.

If notice is mailed, proof of mailing will be sufficient proof of notice.

SECTION V – DEFINITIONS

1. "Advertisement" means a notice that is broadcast or published to the general public or specific market segments about your goods, products or services for the purpose of attracting customers or supporters. For the purposes of this definition:
 - a. Notices that are published include material placed on the Internet or on similar electronic means of communication; and
 - b. Regarding web-sites, only that part of a web-site that is about your goods, products or services for the purposes of attracting customers or supporters is considered an advertisement.
2. "Auto" means:
 - a. A land motor vehicle, trailer or semitrailer designed for travel on public roads, including any attached machinery or equipment; or

- b. Any other land vehicle that is subject to a compulsory or financial responsibility law or other motor vehicle insurance law in the state where it is licensed or principally garaged.

However, "auto" does not include "mobile equipment".

3. "Bodily injury" means bodily injury, sickness or disease sustained by a person, including death resulting from any of these at any time.
4. "Coverage territory" means:
 - a. The United States of America (including its territories and possessions), Puerto Rico and Canada;
 - b. International waters or airspace, but only if the injury or damage occurs in the course of travel or transportation between any places included in a. above; or
 - c. All other parts of the world if the injury or damage arises out of:
 - (1) Goods or products made or sold by you in the territory described in a. above;
 - (2) The activities of a person whose home is in the territory described in a. above, but is away for a short time on your business; or
 - (3) "Personal and advertising injury" offenses that take place through the Internet or similar electronic means of communication provided the insured's responsibility to pay damages is determined in a "suit" on the merits, in the territory described in a. above or in a settlement we agree to.
5. "Employee" includes a "leased worker". "Employee" does not include a "temporary worker".
6. "Executive officer" means a person holding any of the officer positions created by your charter, constitution, by-laws or any other similar governing document.
7. "Hostile fire" means one which becomes uncontrollable or breaks out from where it was intended to be.
8. "Impaired property" means tangible property, other than "your product" or "your work", that cannot be used or is less useful because:
 - a. It incorporates "your product" or "your work" that is known or thought to be defective, deficient, inadequate or dangerous; or
 - b. You have failed to fulfill the terms of a contract or agreement;if such property can be restored to use by:
 - a. The repair, replacement, adjustment or removal of "your product" or "your work"; or

- b. Your fulfilling the terms of the contract or agreement.
9. "Insured contract" means:
- a. A contract for a lease of premises. However, that portion of the contract for a lease of premises that indemnifies any person or organization for damage by fire to premises while rented to you or temporarily occupied by you with permission of the owner is not an "insured contract";
 - b. A sidetrack agreement;
 - c. Any easement or license agreement, except in connection with construction or demolition operations on or within 50 feet of a railroad;
 - d. An obligation, as required by ordinance, to indemnify a municipality, except in connection with work for a municipality;
 - e. An elevator maintenance agreement;
 - f. That part of any other contract or agreement pertaining to your business (including an indemnification of a municipality in connection with work performed for a municipality) under which you assume the tort liability of another party to pay for "bodily injury" or "property damage" to a third person or organization. Tort liability means a liability that would be imposed by law in the absence of any contract or agreement.

Paragraph f. does not include that part of any contract or agreement:

- (1) That indemnifies a railroad for "bodily injury" or "property damage" arising out of construction or demolition operations, within 50 feet of any railroad property and affecting any railroad bridge or trestle, tracks, roadbeds, tunnel, underpass or crossing;
- (2) That indemnifies an architect, engineer or surveyor for injury or damage arising out of:
 - (a) Preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; or
 - (b) Giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage; or
- (3) Under which the insured, if an architect, engineer or surveyor, assumes liability for an injury or damage arising out of the insured's rendering or failure to render professional services, including those listed in (2) above and supervisory, inspection, architectural or engineering activities.

10. "Leased worker" means a person leased to you by a labor leasing firm under an agreement between you and the labor leasing firm, to perform duties related to the conduct of your business. "Leased worker" does not include a "temporary worker".

11. "Loading or unloading" means the handling of property:

- a. After it is moved from the place where it is accepted for movement into or onto an aircraft, watercraft or "auto";
- b. While it is in or on an aircraft, watercraft or "auto"; or
- c. While it is being moved from an aircraft, watercraft or "auto" to the place where it is finally delivered;

but "loading or unloading" does not include the movement of property by means of a mechanical device, other than a hand truck, that is not attached to the aircraft, watercraft or "auto".

12. "Mobile equipment" means any of the following types of land vehicles, including any attached machinery or equipment:

- a. Bulldozers, farm machinery, forklifts and other vehicles designed for use principally off public roads;
- b. Vehicles maintained for use solely on or next to premises you own or rent;
- c. Vehicles that travel on crawler treads;
- d. Vehicles, whether self-propelled or not, maintained primarily to provide mobility to permanently mounted:
 - (1) Power cranes, shovels, loaders, diggers or drills; or
 - (2) Road construction or resurfacing equipment such as graders, scrapers or rollers;
- e. Vehicles not described in a., b., c. or d. above that are not self-propelled and are maintained primarily to provide mobility to permanently attached equipment of the following types:
 - (1) Air compressors, pumps and generators, including spraying, welding, building cleaning, geophysical exploration, lighting and well servicing equipment; or
 - (2) Cherry pickers and similar devices used to raise or lower workers;
- f. Vehicles not described in a., b., c. or d. above maintained primarily for purposes other than the transportation of persons or cargo.

However, self-propelled vehicles with the following types of permanently attached equipment are not "mobile equipment" but will be considered "autos":

- (1) Equipment designed primarily for:
 - (a) Snow removal;
 - (b) Road maintenance, but not construction or resurfacing; or
 - (c) Street cleaning;
- (2) Cherry pickers and similar devices mounted on automobile or truck chassis and used to raise or lower workers; and
- (3) Air compressors, pumps and generators, including spraying, welding, building cleaning, geophysical exploration, lighting and well servicing equipment.

However, "mobile equipment" does not include any land vehicles that are subject to a compulsory or financial responsibility law or other motor vehicle insurance law in the state where it is licensed or principally garaged. Land vehicles subject to a compulsory or financial responsibility law or other motor vehicle insurance law are considered "autos".

13. "Occurrence" means an accident, including continuous or repeated exposure to substantially the same general harmful conditions.
14. "Personal and advertising injury" means injury, including consequential "bodily injury", arising out of one or more of the following offenses:
 - a. False arrest, detention or imprisonment;
 - b. Malicious prosecution;
 - c. The wrongful eviction from, wrongful entry into, or invasion of the right of private occupancy of a room, dwelling or premises that a person occupies, committed by or on behalf of its owner, landlord or lessor;
 - d. Oral or written publication, in any manner, of material that slanders or libels a person or organization or disparages a person's or organization's goods, products or services;
 - e. Oral or written publication, in any manner, of material that violates a person's right of privacy;
 - f. The use of another's advertising idea in your "advertisement"; or
 - g. Infringing upon another's copyright, trade dress or slogan in your "advertisement".
15. "Pollutants" mean any solid, liquid, gaseous or thermal irritant or contaminant, including smoke, vapor, soot, fumes, acids, alkalis, chemicals and waste. Waste includes materials to be recycled, reconditioned or reclaimed.

16. "Products-completed operations hazard":

- a. Includes all "bodily injury" and "property damage" occurring away from premises you own or rent and arising out of "your product" or "your work" except:
 - (1) Products that are still in your physical possession; or
 - (2) Work that has not yet been completed or abandoned. However, "your work" will be deemed completed at the earliest of the following times:
 - (a) When all of the work called for in your contract has been completed.
 - (b) When all of the work to be done at the job site has been completed if your contract calls for work at more than one job site.
 - (c) When that part of the work done at a job site has been put to its intended use by any person or organization other than another contractor or subcontractor working on the same project.

Work that may need service, maintenance, correction, repair or replacement, but which is otherwise complete, will be treated as completed.

- b. Does not include "bodily injury" or "property damage" arising out of:
 - (1) The transportation of property, unless the injury or damage arises out of a condition in or on a vehicle not owned or operated by you, and that condition was created by the "loading or unloading" of that vehicle by any insured;
 - (2) The existence of tools, uninstalled equipment or abandoned or unused materials; or
 - (3) Products or operations for which the classification, listed in the Declarations or in a policy schedule, states that products-completed operations are subject to the General Aggregate Limit.

17. "Property damage" means:

- a. Physical injury to tangible property, including all resulting loss of use of that property. All such loss of use shall be deemed to occur at the time of the physical injury that caused it; or

- b.** Loss of use of tangible property that is not physically injured. All such loss of use shall be deemed to occur at the time of the "occurrence" that caused it.

For the purposes of this insurance, electronic data is not tangible property.

As used in this definition, electronic data means information, facts or programs stored as or on, created or used on, or transmitted to or from computer software, including systems and applications software, hard or floppy disks, CD-ROMS, tapes, drives, cells, data processing devices or any other media which are used with electronically controlled equipment.

- 18.** "Suit" means a civil proceeding in which damages because of "bodily injury", "property damage" or "personal and advertising injury" to which this insurance applies are alleged. "Suit" includes:

- a.** An arbitration proceeding in which such damages are claimed and to which the insured must submit or does submit with our consent; or
- b.** Any other alternative dispute resolution proceeding in which such damages are claimed and to which the insured submits with our consent.

- 19.** "Temporary worker" means a person who is furnished to you to substitute for a permanent "employee" on leave or to meet seasonal or short-term workload conditions.

- 20.** "Volunteer worker" means a person who is not your "employee", and who donates his or her work and acts at the direction of and within the scope of duties determined by you, and is not paid a fee, salary or other compensation by you or anyone else for their work performed for you.

- 21.** "Your product":

- a.** Means:

- (1)** Any goods or products, other than real property, manufactured, sold, handled, distributed or disposed of by:

- (a)** You;

- (b)** Others trading under your name; or

- (c)** A person or organization whose business or assets you have acquired; and

- (2)** Containers (other than vehicles), materials, parts or equipment furnished in connection with such goods or products.

- b.** Includes

- (1)** Warranties or representations made at any time with respect to the fitness, quality, durability, performance or use of "your product"; and

- (2)** The providing of or failure to provide warnings or instructions.

- c.** Does not include vending machines or other property rented to or located for the use of others but not sold.

- 22.** "Your work":

- a.** Means:

- (1)** Work or operations performed by you or on your behalf; and

- (2)** Materials, parts or equipment furnished in connection with such work or operations.

- b.** Includes

- (1)** Warranties or representations made at any time with respect to the fitness, quality, durability, performance or use of "your work", and

- (2)** The providing of or failure to provide warnings or instructions.

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 10 07 04

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

| Name Of Additional Insured Person(s) Or Organization(s): | Location(s) Of Covered Operations |
|---|-----------------------------------|
| <p>EXAMPLE</p> | |
| <p>Information required to complete this Schedule, if not shown above, will be shown in the Declarations.</p> | |

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

END OF SECTION 00 62 16.12

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 37 07 04

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – COMPLETED OPERATIONS**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

| Name Of Additional Insured Person(s) Or Organization(s): | Location And Description Of Completed Operations |
|--|--|
| | |
| Information required to complete this Schedule, if not shown above, will be shown in the Declarations. | |

Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

END OF SECTION 00 62 16.13

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 25 04 03 97

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED LOCATION(S) GENERAL AGGREGATE LIMIT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

| |
|--------------------------------|
| Designated Location(s): |
|--------------------------------|

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

- A.** For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under **COVERAGE A (SECTION I)**, and for all medical expenses caused by accidents under **COVERAGE C (SECTION I)**, which can be attributed only to operations at a single designated "location" shown in the Schedule above:
1. A separate Designated Location General Aggregate Limit applies to each designated "location", and that limit is equal to the amount of the General Aggregate Limit shown in the Declarations.
 2. The Designated Location General Aggregate Limit is the most we will pay for the sum of all damages under **COVERAGE A**, except damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard", and for medical expenses under **COVERAGE C** regardless of the number of:
 - a. Insureds;
 - b. Claims made or "suits" brought; or
 - c. Persons or organizations making claims or bringing "suits".
 3. Any payments made under **COVERAGE A** for damages or under **COVERAGE C** for medical expenses shall reduce the Designated Location General Aggregate Limit for that designated "location". Such payments shall not reduce the General Aggregate Limit shown in the Declarations nor shall they reduce any other Designated Location General Aggregate Limit for any other designated "location" shown in the Schedule above.
 4. The limits shown in the Declarations for Each Occurrence, Fire Damage and Medical Expense continue to apply. However, instead of being subject to the General Aggregate Limit shown in the Declarations, such limits will be subject to the applicable Designated Location General Aggregate Limit.



- B.** For all sums which the insured becomes legally obligated to pay as damages caused by “occurrences” under **COVERAGE A (SECTION I)**, and for all medical expenses caused by accidents under **COVERAGE C (SECTION I)**, which cannot be attributed only to operations at a single designated “location” shown in the Schedule above:
1. Any payments made under **COVERAGE A** for damages or under **COVERAGE C** for medical expenses shall reduce the amount available under the General Aggregate Limit or the Products-Completed Operations Aggregate Limit, whichever is applicable; and
 2. Such payments shall not reduce any Designated Location General Aggregate Limit.
- C.** When coverage for liability arising out of the “products-completed operations hazard” is provided, any payments for damages because of “bodily injury” or “property damage” included in the “products-completed operations hazard” will reduce the Products-Completed Operations Aggregate Limit, and not reduce the General Aggregate Limit nor the Designated Location General Aggregate Limit.
- D.** For the purposes of this endorsement, the **Definitions** Section is amended by the addition of the following definition:
- “Location” means premises involving the same or connecting lots, or premises whose connection is interrupted only by a street, roadway, waterway or right-of-way of a railroad.
- E.** The provisions of Limits Of Insurance (**SECTION III**) not otherwise modified by this endorsement shall continue to apply as stipulated.

Sample

END OF SECTION 00 62 16.14



AIA Document G702® - 1992

Application and Certificate for Payment

TO OWNER: University of Maine System
by and through
University of Maine
5765 Service Building
Orono, ME 04469

PROJECT:

APPLICATION NO:
PERIOD TO:

Distribution to:
OWNER:
ARCHITECT:
CONTRACTOR:
FIELD:
OTHER:

FROM
CONTRACTOR:

VIA
ARCHITECT:

CONTRACT FOR:
CONTRACT DATE:
PROJECT NOS: / /

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. AIA Document G703®, Continuation Sheet, is attached.

1. ORIGINAL CONTRACT SUM 0.00
2. NET CHANGE BY CHANGE ORDERS 0.00
3. CONTRACT SUM TO DATE (Line 1 ± 2) 0.00
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) 0.00
5. RETAINAGE:
 - a. 0 % of Completed Work
(Column D + E on G703) 0.00
 - b. 0 % of Stored Material
(Column F on G703) 0.00

Total Retainage (Lines 5a + 5b or Total in Column I of G703) 0.00

6. TOTAL EARNED LESS RETAINAGE 0.00
(Line 4 Less Line 5 Total)
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT 0.00
(Line 6 from prior Certificate)

8. CURRENT PAYMENT DUE 0.00
9. BALANCE TO FINISH, INCLUDING RETAINAGE 0.00
(Line 3 less Line 6)

| CHANGE ORDER SUMMARY | ADDITIONS | DEDUCTIONS |
|--|-------------|-------------|
| Total changes approved in previous months by Owner | 0.00 | 0.00 |
| Total approved this Month | 0.00 | 0.00 |
| TOTALS | 0.00 | 0.00 |
| NET CHANGES by Change Order | | 0.00 |

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

By: _____ Date: _____

State of: _____

County of: _____

Subscribed and sworn to before
me this _____ day of _____

Notary Public:

My Commission expires: _____

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED 0.00
(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:

By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

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User Notes: (3B9ADA4C)

SECTION 00 62 76.13
SAMPLE

SALES TAX FORM

DATE: _____

VENDOR: _____

Vendor Name

Vendor Address

Vendor City, State Zip

I hereby certify under penalties of perjury, that:

I am engaged in the performance of a construction contract on a project for the University of Maine System which is a Sales Tax exempt organization under the Maine Sales and Use Tax Law, Section 1760, subsection 2 and 16:

This project is titled: Upton Hastings Bathroom Renovation
Project Title

The project is located at: UNIVERSITY OF MAINE
Campus Name or Town

This certificate is issued to cover purchases of materials that will be permanently incorporated into the real property belonging to the exempt organization or government agency indicated above.

Signed: _____
Authorized Signature

Name & Title: _____

Firm Name: _____

Firm Address: _____

Firm City, State Zip _____

END OF SECTION 00 62 76.13



AIA[®] Document G707A™ – 1994

Consent of Surety to Reduction in or Partial Release of Retainage

| | | |
|---|------------------------------------|--------------------------------------|
| PROJECT: <i>(Name and address)</i> Samples | ARCHITECT'S PROJECT NUMBER: | OWNER: <input type="checkbox"/> |
| | CONTRACT FOR: | ARCHITECT: <input type="checkbox"/> |
| TO OWNER: <i>(Name and address)</i> University of Maine System by and through University of Maine 5765 Service Building Orono, ME 04469 | CONTRACT DATED: | CONTRACTOR: <input type="checkbox"/> |
| | | SURETY: <input type="checkbox"/> |
| | | OTHER: <input type="checkbox"/> |

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

on bond of
(Insert name and address of Contractor)

, SURETY,

hereby approves the reduction in or partial release of retainage to the Contractor as follows:

, CONTRACTOR,

The Surety agrees that such reduction in or partial release of retainage to the Contractor shall not relieve the Surety of any of its obligations to
(Insert name and address of Owner)

, OWNER,

as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:
(Insert in writing the month followed by the numeric date and year.)

(Surety)

(Signature of authorized representative)

(Printed name and title)

Attest:
(Seal):

00 62 79
SAMPLE
STORED MATERIALS

University of Maine System
by and through
University of Maine
5765 Service Building
Orono ME 04469

Project Title: _____

Location: University of Maine

Contractor: _____

Materials and/or equipment (hereinafter "Materials") that have not yet been incorporated into the work may be delivered and suitably stored, at the site or some other location agreed upon by the Owner. The Materials listed below have been estimated at 100% of the cost and will be stored at _____. The Owner will reimburse the Contractor based upon the prices included on the Schedule of Values Form, 00 62 73(AIA G703), less the cost of installation. The Contractor must complete sufficient copies of this Stored Materials Form, 00 62 79, to accompany the Application for Payment. The Contractor shall secure the signature of its bonding company on all forms and shall also provide a Power of Attorney from the bonding company.

SCHEDULE

| Qty | Material/Equipment | Item in AIA G703 | | Unit Wholesale Price | Extended Wholesale Price |
|-------|--------------------|------------------|------------|----------------------|--------------------------|
| | | Item No | Unit Price | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Total | | | | | |

Surety _____
Power of Attorney Must be Attached

By: _____
Attorney-in-Fact

Date: _____

BILL OF SALE

The Contractor, _____, (will store/has stored) certain Materials (at the site of this project/at an approved warehouse/at bonded warehouse) and will be paid in accordance with the provisions of the General Conditions of the Contract for Construction. In consideration of the sum of \$_____ paid to the contractor by the Owner, and, in compliance with the provisions of the Contract, and, with the intention to be legally bound, the Contractor does hereby grant, bargain, sell and deliver unto the Owner, its successors and assigns, all and singular, the Materials described in the schedule above. The Contractor agrees that:

1. Contractor has good title to the Materials, free and clear of all liens and encumbrances, and title is granted to the Owner;
2. The Materials will be used only in the construction of the above referenced project, under the provisions of the Contract, and will not be diverted elsewhere without the prior written consent of the Owner;
3. The Materials have been delivered to and are at the places approved for storage, and they are clearly marked and identified as the property of the Owner and are stored in a safe and secure manner to protect from damage or loss;

4. The Contractor will pay all expenses in connection with the sale, delivery, storage, protection and insurance of Materials granted to the Owner.
5. The Contractor will remain responsible for the Materials, which will remain under its custody and control for all losses, and will fully indemnify the Owner for the cost of the Materials should the Materials be lost or damaged or stolen, regardless of exclusions in insurance policies required under this document. The contractor has insured the Materials against loss or damage by fire (with extended coverage), theft and burglary, with loss payable to the Owner;
6. The Contractor agrees that the quantities of Materials set forth in the Schedule of Values Form represents the maximum quantities for which it may be entitled to payment under the provisions of the contract;
7. The following information is included with this form:
 - (1) An Application for Payment;
 - (2) An invoice or copy of an invoice for Materials stored;
 - (3) Evidence of payment, or when payment has not been made, a letter on the Contractor's letterhead authorizing payment to be made jointly to the Contractor and the Supplier;
 - (4) Photographs showing the stored Materials and its location;
 - (5) a fire and theft insurance policy rider for the stored Materials.
 - (6) a warehouseman's receipt acknowledging that the Materials being stored at the warehouse are being held for the benefit of the Contractor or/or University.

Witness:

By: _____ (SEAL)
Principal/Contractor-Individual

Witness:

Principal/Contractor-Individual

(SEAL)
(SEAL)
(SEAL)
(SEAL)

Attest:

Secretary

Principal/Contractor-Corporation
By: _____
President

END OF SECTION 00 62 79

 **AIA**® Document G716™ – 2004

Request for Information (“RFI”)

TO:

FROM:

PROJECT:
Samples

ISSUE DATE:

RFI No.

PROJECT NUMBERS: /

REQUESTED REPLY DATE:
COPIES TO:

RFI DESCRIPTION: *(Fully describe the question or type of information requested.)*

REFERENCES/ATTACHMENTS: *(List specific documents researched when seeking the information requested.)*
SPECIFICATIONS: **DRAWINGS:** **OTHER:**

SENDER’S RECOMMENDATION: *(If RFI concerns a site or construction condition, the sender may provide a recommended solution, including cost and/or schedule considerations.)*

RECEIVER’S REPLY: *(Provide answer to RFI, including cost and/or schedule considerations.)*

BY

DATE

COPIES TO

Note: This reply is not an authorization to proceed with work involving additional cost, time or both. If any reply requires a change to the Contract Documents, a Change Order, Construction Change Directive or a Minor Change in the work must be executed in accordance with the Contract Documents.



AIA[®] Document G710[™] – 2017

Architect's Supplemental Instructions

PROJECT: *(name and address)*

Samples

CONTRACT INFORMATION:

Contract For:

Date:

ASI INFORMATION:

ASI Number:

Date:

OWNER: *(name and address)*

University of Maine System
by and through
University of Maine
5765 Service Building
Orono, ME 04469

ARCHITECT: *(name and address)***CONTRACTOR:** *(name and address)*

The Contractor shall carry out the Work in accordance with the following supplemental instructions without change in Contract Sum or Contract Time. Proceeding with the Work in accordance with these instructions indicates your acknowledgment that there will be no change in the Contract Sum or Contract Time.
(Insert a detailed description of the Architect's supplemental instructions and, if applicable, attach or reference specific exhibits.)

ISSUED BY THE ARCHITECT:

ARCHITECT *(Firm name)*

SIGNATURE

PRINTED NAME AND TITLE

DATE

 **AIA**® Document G714™ – 2017

Construction Change Directive

PROJECT: *(name and address)*
Samples

CONTRACT INFORMATION:
Contract For:
Date:

CCD INFORMATION:
Directive Number:
Date:

OWNER: *(name and address)*
University of Maine System
by and through
University of Maine
5765 Service Building
Orono, ME 04469

ARCHITECT: *(name and address)*

CONTRACTOR: *(name and address)*

The Contractor is hereby directed to make the following change(s) in this Contract:
(Insert a detailed description of the change and, if applicable, attach or reference specific exhibits.)

PROPOSED ADJUSTMENTS

- The proposed basis of adjustment to the Contract Sum or Guaranteed Maximum Price is:
 - Lump Sum decrease of \$0.00
 - Unit Price of \$ per
 - Cost, as defined below, plus the following fee:
(Insert a definition of, or method for determining, cost)
 - As follows:

- The Contract Time is proposed to . The proposed adjustment, if any, is .

NOTE: The Owner, Architect and Contractor should execute a Change Order to supersede this Construction Change Directive to the extent they agree upon adjustments to the Contract Sum, Contract Time, or Guaranteed Maximum price for the change(s) described herein.

When signed by the Owner and Architect and received by the Contractor, this document becomes effective IMMEDIATELY as a Construction Change Directive (CCD), and the Contractor shall proceed with the change(s) described above.

Contractor signature indicates agreement with the proposed adjustments in Contract Sum and Contract Time set forth in this CCD.

ARCHITECT *(Firm name)*

OWNER *(Firm name)*

CONTRACTOR *(Firm name)*

SIGNATURE

SIGNATURE

SIGNATURE

PRINTED NAME AND TITLE

PRINTED NAME AND TITLE

PRINTED NAME AND TITLE

DATE

DATE

DATE



AIA[®] Document G709[™] – 2018

Proposal Request

PROJECT: *(name and address)*

Samples

CONTRACT INFORMATION:

Contract For:

Date:

Architect's Project Number:

Proposal Request Number:

Proposal Request Date:

OWNER: *(name and address)*

University of Maine System

by and through

University of Maine

5765 Service Building

Orono, ME 04469

ARCHITECT: *(name and address)***CONTRACTOR:** *(name and address)*

The Owner requests an itemized proposal for changes to the Contract Sum and Contract Time for proposed modifications to the Contract Documents described herein. The Contractor shall submit this proposal within Zero (0) days or notify the Architect in writing of the anticipated date of submission.

(Insert a detailed description of the proposed modifications to the Contract Documents and, if applicable, attach or reference specific exhibits.)

THIS IS NOT A CHANGE ORDER, A CONSTRUCTION CHANGE DIRECTIVE, OR A DIRECTION TO PROCEED WITH THE WORK DESCRIBED IN THE PROPOSED MODIFICATIONS.

REQUESTED BY THE ARCHITECT:

PRINTED NAME AND TITLE



AIA® Document G701™ – 2017

Change Order

PROJECT: *(Name and address)*
Samples

CONTRACT INFORMATION:
Contract For:
Date:

CHANGE ORDER INFORMATION:
Change Order Number:
Date:

OWNER: *(Name and address)*
University of Maine System
by and through
University of Maine
5765 Service Building
Orono, ME 04469

ARCHITECT: *(Name and address)*

CONTRACTOR: *(Name and address)*

THE CONTRACT IS CHANGED AS FOLLOWS:

(Insert a detailed description of the change and, if applicable, attach or reference specific exhibits. Also include agreed upon adjustments attributable to executed Construction Change Directives.)

| | | | |
|--|----|-------|------|
| The original Contract Sum was | \$ | _____ | 0.00 |
| The net change by previously authorized Change Orders | \$ | _____ | 0.00 |
| The Contract Sum prior to this Change Order was | \$ | _____ | 0.00 |
| The Contract Sum will be increased by this Change Order in the amount of | \$ | _____ | 0.00 |
| The new Contract Sum including this Change Order will be | \$ | _____ | 0.00 |

The Contract Time will be increased by Zero (0) days.
The new date of Substantial Completion will be

NOTE: This Change Order does not include adjustments to the Contract Sum or Guaranteed Maximum Price, or the Contract Time, that have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.

ARCHITECT *(Firm name)*

CONTRACTOR *(Firm name)*

OWNER *(Firm name)*

SIGNATURE

SIGNATURE

SIGNATURE

PRINTED NAME AND TITLE

PRINTED NAME AND TITLE

PRINTED NAME AND TITLE

DATE

DATE

DATE



AIA® Document G704™ – 2017

Certificate of Substantial Completion

PROJECT: *(name and address)*

Samples

CONTRACT INFORMATION:

Contract For:

Date:

CERTIFICATE INFORMATION:

Certificate Number:

Date:

OWNER: *(name and address)*

University of Maine System
by and through
University of Maine
5765 Service Building
Orono, ME 04469

ARCHITECT: *(name and address)*

CONTRACTOR: *(name and address)*

The Work identified below has been reviewed and found, to the Architect’s best knowledge, information, and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated below is the date established by this Certificate.

(Identify the Work, or portion thereof, that is substantially complete.)

ARCHITECT *(Firm Name)*

SIGNATURE

PRINTED NAME AND TITLE

DATE OF SUBSTANTIAL COMPLETION

WARRANTIES

The date of Substantial Completion of the Project or portion designated above is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:

(Identify warranties that do not commence on the date of Substantial Completion, if any, and indicate their date of commencement.)

WORK TO BE COMPLETED OR CORRECTED

A list of items to be completed or corrected is attached hereto, or transmitted as agreed upon by the parties, and identified as follows:

(Identify the list of Work to be completed or corrected.)

The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment, whichever occurs first. The Contractor will complete or correct the Work on the list of items attached hereto within () days from the above date of Substantial Completion.

Cost estimate of Work to be completed or corrected: \$

The responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work, insurance, and other items identified below shall be as follows:

(Note: Owner’s and Contractor’s legal and insurance counsel should review insurance requirements and coverage.)

The Owner and Contractor hereby accept the responsibilities assigned to them in this Certificate of Substantial Completion:

CONTRACTOR *(Firm Name)*

SIGNATURE

PRINTED NAME AND TITLE

DATE

OWNER *(Firm Name)*

SIGNATURE

PRINTED NAME AND TITLE

DATE

SECTION 00 65 19
CERTIFICATE OF COMPLETION FORM
(Final)

DATE:

PROJECT NAME: Upton Hastings Bathroom Renovation

SUBSTANTIAL COMPLETION DATE:

FINAL COMPLETION is defined, in accordance with Article 9 of the A201 General Conditions of the Contract for Construction, as the date certified by the Architect when all the Work of the Project is fully complete, the Close-Out requirements of Paragraph 9.10 of the General Conditions have been completed, including the Close-Out Meeting and approval of Close-Out by the Architect, in accordance with Subparagraph 9.10.2, and the Contract fully performed in accordance with the Contract Documents, and the Contractor entitled to final payment.

The CONTRACTOR certifies that the Work is fully completed and was completed on or before _____, 20____, and submits herewith:

Application for Final Payment (AIA G702)
Affidavit of Payments (AIA G706)
Consent of Surety (AIA G707)
Releases of Liens (AIA G706A)
Waiver of Lien

CONTRACTOR:

By: _____ Date: _____
Name: _____

The ARCHITECT has inspected the Work and has determined that the Date of Final Completion was _____, 20_____.

ARCHITECT:

By: _____ Date: _____
Name: _____

The OWNER hereby accepts the Work as fully complete and will make final payment.

OWNER:

By: _____ Date: _____
Director of Capital Planning & Project Management
University of Maine System

END OF SECTION 00 65 19



AIA[®] Document G706™ – 1994

Contractor's Affidavit of Payment of Debts and Claims

PROJECT: *(Name and address)*
Samples

ARCHITECT'S PROJECT NUMBER:

OWNER:

ARCHITECT:

CONTRACTOR:

SURETY:

OTHER:

TO OWNER: *(Name and address)*
University of Maine System
by and through
University of Maine
5765 Service Building
Orono, ME 04469

CONTRACT FOR:
CONTRACT DATED:

STATE OF: *(State of Signature)*

COUNTY OF: *(County of Signature)*

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Consent of Surety to Final Payment. Whenever Surety is involved, Consent of Surety is required. AIA Document G707, Consent of Surety, may be used for this purpose

Indicate Attachment Yes No

CONTRACTOR: *(Name and address)*

BY: _____

(Signature of authorized representative)

(Printed name and title)

The following supporting documents should be attached hereto if required by the Owner:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.
3. Contractor's Affidavit of Release of Liens (AIA Document G706A).

Subscribed and sworn to before me on this date:

Notary Public:

My Commission Expires:



AIA[®] Document G706A[™] – 1994

Contractor's Affidavit of Release of Liens

PROJECT: *(Name and address)*

Samples

ARCHITECT'S PROJECT NUMBER:

OWNER:

TO OWNER: *(Name and address)*

University of Maine System
by and through
University of Maine
5765 Service Building
Orono, ME 04469

CONTRACT FOR:

CONTRACT DATED:

ARCHITECT:

CONTRACTOR:

SURETY:

OTHER:

STATE OF: *(State of Signature)*

COUNTY OF: *(County of Signature)*

The undersigned hereby certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

CONTRACTOR: *(Name and address)*

BY:

(Signature of authorized representative)

(Printed name and title)

Subscribed and sworn to before me on this date:

Notary Public:

My Commission Expires:

SAMPLE

SECTION 00 65 19.17
WAIVER OF LIEN

DATE: _____

State of: _____

State of Signature

County of: _____

County of Signature

TO: University of Maine System
by and through
University of Southern Maine
PO Box 9300
Portland, ME 04104

SUBJECT:

Project Name: Upton Hastings Bathroom Renovation

Project Location: UNIVERSITY OF SOUTHERN MAINE

Upon receipt of the sum of _____ (being the balance due us under the existing contract or subcontract agreement for work on the Subject Project) the undersigned agrees that it will waive and release the University of Maine System from any and all lien or claim or right to lien on the Subject Project under the Statutes of the state of Maine relating to liens for labor, materials and/or subcontracts furnished for the Subject Project on premises belonging to the University of Maine System.

Signed: _____

Title: _____

Firm Name: _____

NOTARY

Subscribed and sworn to before me this _____ day of _____, 20_____.

Signature Notary Public

END OF SECTION 00 65 19.17

SUBCONTRACTOR/SUPPLIER CONDITIONAL
RELEASE AND WAIVER OF LIEN

DATE: _____

State of: _____
State of Signature

County of: _____
County of Signature

SUBJECT:

Project Name: _____

Project Location: _____

_____ (hereinafter called the Subcontractor) in consideration of the sum of \$ _____ to be paid to Subcontractor by _____ upon receipt of said payment does hereby release and forever discharge _____ and the **University of Maine System** from any and all workman's, materialman's, mechanic's, building or other liens, claims, causes of action, liabilities and other obligations with respect to the value of any and all work, services and materials furnished, performed, or supplied by the subcontractor to or in connection with the construction project known as the Insert Project Name Here located in Insert Location Here (hereinafter called the "Premises") through the date of _____. Subcontractor shall take all reasonable action to discharge any lien currently filed or pending against _____ and the **University of Maine System**, including without limitation the recording of instruments discharging said lien with the appropriate Registry of Deeds.

Subcontractor acknowledges that its receipt of said payment will constitute full and final payment for all work performed by Subcontractor through the date set forth above except for retainage if applicable, in the amount of (\$) _____.

Subcontractor further covenants and represents that all of the subcontract suppliers, mechanics, materialmen, and laborers listed below engaged by Subcontractor have been paid in full (less proper retainage if any) or shall be immediately paid in full from the proceeds of this current payment for all work done and or materials furnished to the Premises through the date set forth in the first paragraph above. The Subcontractor hereby agrees to indemnify, defend, and hold _____ and The **University of Maine System** harmless from any and all claims, including but not limited to attorney fees, claims for payment, and liens of any kind or nature filed or made by any person or entity based upon work done or materials furnished in connection with the Premises by the Subcontractor or any sub-subcontractor, suppliers, mechanics, materialmen, and laborers employed by Subcontractor through the date set forth in the first paragraph above. Subcontractor shall request any sub-subcontractor, suppliers, mechanics, materialmen, and laborers employed by Subcontractor through the date set forth in the first paragraph above to, and shall itself, take all reasonable action to discharge any lien in connection with payments owed by Subcontractor currently filed or pending against _____ and the **University of Maine System**, including without limitation the recording of instruments discharging said lien with the appropriate Registry of Deeds.

Major sub-subcontractors and suppliers whose contract or purchase order meets or exceeds \$5,000 working for said Subcontractor for the period stated above:

SECTION 00 65 19.18

The undersigned represents that he is authorized by all corporate or other action necessary to execute and deliver this release.

Signed: _____

Title: _____

Firm Name: _____

NOTARY

Subscribed and sworn to before me this _____ day of _____, 20_____.

Signature Notary Public

END OF SECTION 00 65 19.18



AIA[®] Document G707™ – 1994

Consent Of Surety to Final Payment

PROJECT: *(Name and address)*
Samples

ARCHITECT'S PROJECT NUMBER:

OWNER:

CONTRACT FOR:

ARCHITECT:

TO OWNER: *(Name and address)*
University of Maine System
by and through
University of Maine
5765 Service Building
Orono, ME 04469

CONTRACT DATED:

CONTRACTOR:

SURETY:

OTHER:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

on bond of
(Insert name and address of Contractor)

, SURETY,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall
not relieve the Surety of any of its obligations to
(Insert name and address of Owner)

, CONTRACTOR,

as set forth in said Surety's bond.

, OWNER,

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:
(Insert in writing the month followed by the numeric date and year.)

(Surety)

(Signature of authorized representative)

Attest:
(Seal):

(Printed name and title)



AIA® Document A201® – 2017

General Conditions of the Contract for Construction

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

THE OWNER:
(Name, legal status and address)

University of Maine System
by and through

THE ARCHITECT:
(Name, legal status and address)

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

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

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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. The Architect is the Initial Decision Maker for this Agreement.

§ 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. Where the Procurement Requirements include provisions that portions of the Work be File Bid in accordance with the requirements of the Maine Bid Depository System, the subcontracts for these portions of the work will cover the same scope of work as defined by the Procurement Requirements and the File Bid and shall have the same contract amount as listed in the successful bid.

§ 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. The provisions of this section shall not be deemed to modify the contract between the University of Maine System (the Owner) and the Architect under B102-2017 and B201-2017.

§ 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. The provisions of this section shall not be deemed to modify the contract between the University of Maine System (the Owner) and the Architect under B102-2017 and B201-2017.

§ 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 protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties ~~will use AIA Document~~ may use AIA Document G201-2013 Project Digital Data Protocol Form and E203™-2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 1.8 Building Information Models Use and Reliance

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

ARTICLE 2 OWNER

§ 2.1 General

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

.1 For the purpose of this Contract, the Owner is defined as: University of Maine System, acting through its duly authorized agent.

§ 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 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. 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 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.~~

~~§ 2.2.2 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.~~

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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.

~~§ 2.2.3 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. 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.~~

~~§ 2.2.4 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. Architect is a person or entity lawfully licensed to practice in the State of Maine. 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. Whenever the prime professional designer for the Work is an Engineer, the term Architect, wherever used in these documents shall have the term Engineer substituted for the term Architect. The Engineer shall be lawfully licensed to practice engineering in the State of Maine or an entity lawfully practicing engineering identified as such in the Agreement.~~

§ 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~~ at all times conduct safe performance of the Work, including but not limited to appropriate precautions.

§ 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,

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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 industry standard or better 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.

§ 3.4.2.1 After the Contract has been executed, the Owner and Architect may consider a formal request for substitution of products in place of those specified. The Owner shall deduct from the next payment made from the Contract Sum amounts paid to the Architect to evaluate the Contractor's proposed substitutions and to make agreed-upon changes in the Drawings and Specifications made necessary by the Owner's acceptance of the substitutions.

By making requests for substitutions, the Contractor

- .1 Represents that the Contractor has personally investigated the proposed substitute product and determined it is equal or superior in all respects to that specified;
- .2 Represents that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified;
- .3 Certifies that the cost data presented is complete and includes all related costs, and waives all claims for additional costs related to the substitution which subsequently become apparent; and,
- .4 Will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be completed in all respects.

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

§ 3.4.4 If a wage scale prepared by the State of Maine Department of Labor, Bureau of Labor Standards, is included in the Contract Documents, such wage scale represents the minimum wages that must be paid in each category of labor employed on the project.

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The provisions of Title 26 MRSA Chapter 15 Preference to Maine Workers and Contractors, apply to this project, including but not limited to:

§ 1310. Wage and benefits rates to be kept posted

A clearly legible statement of all fair minimum wage and benefits rates to be paid the several classes of laborers, workers and mechanics employed on the construction on the public work must be kept posted in a prominent and easily accessible place at the site by each contractor and subcontractor subject to sections 1304 to 1313.

§ 1311. Wage and benefit record of contractor

The contractor and each subcontractor in charge of the construction of a public work shall keep an accurate record showing the names and occupation of all laborers, workers and mechanics employed by them and all independent contractors working under contract with them in connection with the construction on the public works. The record must also show for all laborers, workers, mechanics and independent contractors the hours worked, the title of the job, the hourly rate or other method of remuneration and the actual wages or other compensation paid to each of the laborers, workers, mechanics and independent contractors. A copy of such a record must be kept at the job site and must be open at all reasonable hours to the inspection of the Bureau of Labor Standards and the public authority that let the contract and its officers and agents. It is not necessary to preserve those records for a period longer than 3 years after the termination of the contract. A copy of each such record must also be filed monthly with the public authority that let the contract. The filed record is a public record pursuant to Title 1, chapter 13, except that the public authority letting a contract shall adopt rules to protect the privacy of personal information contained in the records filed with the public authority under this section, such as Social Security numbers and taxpayer identification numbers. The rules may not prevent the disclosure of information regarding the classification of workers or independent contractors and the remuneration they receive. Such rules are routine technical rules as defined by Title 5, chapter 375, subchapter 2-A.

§ 3.4.5 If a wage scale prepared by the U.S. Department of Labor pursuant to the provision of the Davis-Bacon Act is included in the Contract Documents, such wage scale represents the minimum wages that must be paid in each category of labor on the project. The requirements and responsibilities within the Davis-Bacon Act apply to this project if a Davis-Bacon wage scale is included.

§ 3.4.6 EQUAL EMPLOYMENT OPPORTUNITY

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

- .1** The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, including transgender status, gender, gender identity or gender expression, ethnicity, national origin or citizenship status, familial status, ancestry, age, disability physical or mental, genetic information, veteran or military status status. Such action shall include, but not be limited to, the following: employment, upgrading, demotions, transfers, recruitment or recruitment advertising; layoffs or terminations; rates of pay or other forms of compensation; and selection for training, including apprenticeship.
- .2** The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, including transgender status, gender, gender identity or gender expression, ethnicity, national origin or citizenship status, familial status, ancestry, age, disability physical or mental, genetic information, veteran or military status.
- .3** The contractor will send to each labor union or representative of the workers with which there is a collective or bargaining agreement in place, or other contract or understanding, whereby labor is being furnished for the performances of his contract, a notice, as set forth by the Maine Human Rights Commission, found on their website (https://www1.maine.gov/mhrc/guidance/mhra_guarantees.htm), to be provided by the contracting department or agency, advising the said labor union or workers' representative of the contractor's commitment under the provisions of the contract, and shall post copies of the notice in conspicuous places available to employees and to applicants for employment.
- .4** The contractor will cause the foregoing provisions to be inserted in all contracts for any work covered by this agreement so that such provisions will be binding upon each subcontractor.

.5 Contractors and subcontractors with contracts in excess of \$50,000 will also pursue in good faith affirmative action programs.

§ 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.

§ 3.6.1 The University of Maine System is exempt from payment of taxes under the Maine Sales and Use Tax Law Title 36 Section 1760 for taxes on materials that are permanently incorporated into the real property belonging to the University of Maine System. The University of Maine System is also exempt from the payment of Federal Excise Taxes on articles not for resale and from the Federal Transportation Tax on all shipments; exemption certificates for these taxes will be furnished when required. All quotations shall be less these taxes. The contractor shall pay all other taxes that have been or are legally enacted.

§ 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~~ disturbed. 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~~ proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately

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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.

- .1 The Contractor shall provide an updated Construction Schedule with each Application for Payment reflecting actual construction progress and activities.

§ 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.

§ 3.12.11 The Architect's review of the Contractor's submittals will be limited to examination of an initial submission and two (2) resubmittals. The Architects review of additional submittals will be made only with the consent of the Owner after notification by the Architect. The Owner shall deduct from the next payment made from the Contract Sum amounts paid to the Architect for evaluation of such additional submittals.

§ 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.

§ 3.15.3 Waste Management. The University is committed to a resource management strategy which reduces to a minimum the production of waste material while reusing, recycling or composting as much as possible of the remaining materials. Contractor will submit a construction waste management plan for the project that identifies opportunities to reduce, reuse, or recycle waste from renovations or new construction.

§ 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 final payment is due, and from time to time during the period for correction of Work described in § 12.2, and 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, endeavor to guard the Owner against defects and deficiencies in the Work, 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

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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.

- .1 The Contractor shall reimburse the Owner for compensation paid to the Architect for additional site visits made necessary by the fault, neglect as determined solely by the Owner, or request of the Contractor. The reimbursement shall be deducted from the next payment made from the Contract Sum following the Owner's payment to the Architect.

§ 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.

- .1 The Contractor shall provide Owner a list of all subcontractors and independent contractors on the job site and a record of the entity to whom that subcontractor or independent contractor is directly contracted and by whom that subcontractor or independent contractor is insured for workers' compensation purposes. The list shall be presented at the preconstruction meeting and, when changes occur, at each requisition meeting as necessary.
- .2 Where the use of the Maine Bid Depository is required by the Procurement Requirements, Subcontractors included in the Contractor's Proposal shall be the Subcontractors for the defined Work unless a change has been approved by the Owner.

§ 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

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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

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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.

§ 7.1.4 The combined overhead and profit included in the total cost to the Owner of a Change in the Work shall be based on a previously agreed upon unit pricing or on the following schedule allowing for appropriate allowances for contract duration:

.1 For the Contractor, for Work performed by the Contractor's own forces, 20% of the cost.

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- .2 For the Contractor, for Work performed by the Contractor's Subcontractors, 10% of the amount due the Subcontractors.
- .3 For each Subcontractor involved, for Work performed by the Subcontractor's own forces, 20% of the cost.
- .4 For each Subcontractor involved, for Work performed by the Subcontractor's Sub-subcontractors, 10% of the amount due the Sub-subcontractor.
- .5 Costs to which overhead and profit is to be applied shall be limited to the following:
 - .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
 - .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
 - .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others; and,
 - .4 Costs of premiums for all bonds, insurance, permit fees, and sales, use or similar taxes related to the Work.

§ 7.1.5 When there is only an extension of Contract Time, any Claim for delay made pursuant to Article 15 is limited to additional costs related to supervision and field office personnel, which may be included in the overhead and profit calculation.

§ 7.1.6 In order to facilitate checking of quotations, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by complete itemization of costs including labor, materials and Subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they are to be itemized also. In no case will a change be approved without such itemization.

§ 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.

§ 9.3.1.3 The provisions of Title 5 M.R.S.A § 1746, as amended, pertain to this project. The Owner shall retain five percent (5%) of each payment due the Contractor as part of the security for the fulfillment of the Contract Agreement by the Contractor; the Contractor shall not withhold a greater percentage from subcontractors. The Owner may, if deemed expedient by the Owner, cause the Contractor to be paid temporarily or permanently from time to time during the progress of the work, such portion of the amount retained as the Owner deems prudent or desirable.

§ 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~~ shall 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

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make such representations to the Owner. The Architect ~~may shall~~ also withhold a Certificate for Payment or, because of subsequently discovered evidence, ~~may shall~~ 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, i.e. Work that does not conform to the requirements of the Contract, shall include, but not be limited to, non-conforming Work, disputed Work, incomplete Work, and unacceptable Work, which is not remedied;
 - .1 The Architect shall deduct and withhold from any certification for payment an amount equal to one hundred and fifty percent (150%) the value of any defective Work.
- .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.

§ 9.6.9 All Progress Payments and Final Payment are subject to the requirements of the "Maine Prompt Pay Act" Title 10 M.R.S.A. ch. 201-A, as amended. Payments shall be made on a timely basis in accord with the requirements of this Statute; however, the Contractor waives interest on any late payment.

§ 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.

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§ 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.

- .1** Except with the consent of the Owner, the Architect will perform no more than three (3) site reviews to determine whether the Work or a designated portion thereof has attained Final Completion in accordance with the Contract Documents. The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect for any additional site reviews.

§ 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

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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.

§ 9.11 The Contractor and the Contractor's Surety, if any, shall be liable for and shall pay the Owner the sums stipulated as liquidated damages in the Contract Documents for each calendar day of delay after the date established for Substantial Completion in the Contract Documents until the Work is substantially complete.

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.
- .4 If this Contract involves renovation, repair, or preparation of surfaces for painting in pre-1978 apartments, houses, or spaces used by child care facilities, Contractor shall use certified workers who follow the lead-safe work practices as required by the US Environmental Protection Agency's Renovation, Repair and Remodeling rule described in 40 CFR § 745.85. Notification of the tenants or users under this rule will be the responsibility of the Owner.

§ 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

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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 exclusive of 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. This indemnification obligation shall not apply to any claim for which Owner would not be liable under the Maine Tort Claims Act (14 M.R.S.A. '8101, et seq.) if such claim were made directly against Owner and Owner shall continue to enjoy all rights, claims, immunities and defenses available to it under law.

§ 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

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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~~incurred, exclusive of attorneys' fees.

§ 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.~~

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§ 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~~ caused, with the exception of intentional acts or grossly negligent consultants, contractors or sub-contractors.

§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 ~~14-30~~ 30 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

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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.

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§ 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 Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

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

§ 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:

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- .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~~ Agreement; but not including overhead and profit on Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, 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,

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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

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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~~ The parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim ~~this Agreement, any claim, dispute or other matter in question arising out of or related to this Agreement subject to, but not resolved by, mediation shall be subject to arbitration which, arbitration, which unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association conducted in the place where the Project is located, unless another place is mutually agreed upon, and 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.~~ this Agreement, except that the parties shall select only one Arbitrator, and there shall be no discovery. A demand for arbitration shall be made in writing, delivered to the other party to ~~the Contract, this Agreement,~~ 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, defended.~~

§ 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.

SECTION 00 73 00.11
SAMPLE

SCHEDULE OF LIQUIDATED DAMAGES

Liquidated damages (a fixed amount set forth in the Contract) agreed to by the Owner and the Contractor are intended to compensate the Owner for unexcused delay in the performance of the Contract. The parties agree that the purpose of the liquidated damages schedule below is to establish, in advance, a reasonable estimate of the damages that would be incurred by the Owner if there is an unexcused delay, or a breach of Contract, which causes the work to be extended beyond the contractual substantial completion date. This agreement of liquidated damages by the parties is made to establish the reasonableness of them to the actual damages an Owner may have incurred due to unexcused delays by the Contractor, even though the actual damages may be an uncertain amount and unprovable.

The specific per diem rates of Liquidated Damages are (_____/[enter amt if can reasonably determine-provide method of determination; otherwise] set forth below). By executing the Contract, the Contractor acknowledges that such an amount is not a penalty and that the daily amount set forth in the Contract is a reasonable per diem forecast of damages incurred by the Owner due to the Contractor's failure to complete the Work within the Contract Time.

| Original Contract Amount | | Per Diem Amount of Liquidated Damages |
|--------------------------|---------------|--|
| From | To | |
| More Than | and Including | |
| 0 | \$100,000 | \$500 |
| \$100,000 | \$300,000 | \$675 |
| \$300,000 | \$500,000 | \$750 |
| \$500,000 | \$1,000,000 | \$825 |
| \$1,000,000 | \$2,000,000 | \$1,000 |
| \$2,000,000 | \$4,000,000 | \$1,250 |
| \$4,000,000 | and more | \$1,500 |

END OF SECTION 00 73 00.11



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 N/A day of _____ in the year Sample
(In words, indicate day, month and year.)

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

THE OWNER:
(Name, legal status and address)

University of Maine System
by and through
University of Maine
5765 Service Building
Orono, ME 04469

THE CONTRACTOR:
(Name, legal status and address)

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

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

TABLE OF ARTICLES

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

ARTICLE A.1 GENERAL

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

ARTICLE A.2 OWNER'S INSURANCE

§ A.2.1 General

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

§ A.2.2 Liability Insurance

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

§ A.2.3 Required Property Insurance

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

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

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

§ A.2.3.1 For this project, Property Insurance coverage, up to the total amount of the Project, will be provided by the University by either adding the Project to the University’s existing master property insurance or purchasing a stand-alone builder’s risk policy. Coverage shall be included for the Contractor and all Subcontractors, as their interests may appear, while involved in the Project and until the work is completed or the contractor is otherwise advised in writing. This insurance is limited to the "all risk" type coverage provided under the University’s master property insurance for direct physical loss or damage to the building or building materials related to the project, subject to standard policy limitations and exclusions. The contractor is responsible for a \$10,000 per claim deductible. Any other insurance desired by the Contractor beyond that covered by the University’s insurance, or to cover the \$10,000 deductible, is the responsibility of the Contractor. This contract stands as verification of the University’s property insurance coverage on the project and no further verification will be provided.

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.3.1.1.1 Certificates of Insurance filed with the University of Maine System shall indicate the Certificate Holder as:

University of Maine System
Office of Risk Management
Robinson Hall
46 University Drive
Augusta, ME 04330

§ 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. All required insurance shall be provided by companies that have a current A.M. Best insurance rating of A- or better and that are licensed or approved to do business in the State of Maine.

§ 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 two million dollars (\$ 2,000,000) each occurrence, two million dollars (\$ 2,000,000) general aggregate, and two million dollars (\$ 2,000,000) aggregate for products-completed operations hazard, providing coverage for claims including

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

§ A.3.2.2.2 The Contractor's Commercial General Liability policy under this Section A.3.2.2 shall not contain an 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 one million dollars (\$ 1,000,000) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles along with any other statutorily required automobile coverage.

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

§ A.3.2.5 Workers' Compensation at statutory limits.

§ A.3.2.6 Employers' Liability with policy limits not less than five hundred thousand dollars (\$ 500,000.) each accident, five hundred thousand dollars (\$ 500,000.) each employee, and five hundred thousand dollars (\$ 500,000.) policy limit.

§ A.3.2.7 Jones Act, and the Longshore & Harbor Workers' Compensation Act, as required, if the Work involves hazards arising from work on or near navigable waterways, including vessels and ~~decks~~ docks. Policy limits for such coverage shall not be less than five hundred thousand dollars (\$500,000) each accident, five hundred thousand dollars (\$500,000) each employee, and five hundred thousand dollars (\$500,000) policy limit. Contractor is required to provide proof of such coverage, if applicable to the Work, by submitting a copy of the endorsement or by submitting the USLH form WC 00 01 06 A (current edition).

§ 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 one million dollars (\$ 1,000,000.) per claim and one million dollars (\$ 1,000,000.) in the aggregate.

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

§ A.3.2.10 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 one million dollars (\$ 1,000,000.) per claim and two million dollars (\$ 2,000,000.) in the aggregate.

§ A.3.2.11 Insurance for maritime liability risks associated with the operation of a vessel, if the Work requires such activities, with policy limits of not less than two million dollars (\$ 2,000,000.) per claim and two million dollars (\$ 2,000,000.) in the aggregate.

§ A.3.2.12 Insurance for the use or operation of manned or unmanned aircraft, if the Work requires such activities, with policy limits of not less than one million dollars (\$ 1,000,000.) per claim and one million dollars (\$ 1,000,000.) in the aggregate. Authorization from Administration of the University of Maine System must be obtained thirty (30) days prior to the utilization of the equipment.

§ 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.)

N/A

§ 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-insurance.~~ 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 one million dollars (\$ 1,000,000) per claim and two million dollars (\$ 2,000,000) in the aggregate, for liability arising from the encapsulation, removal, handling, storage, transportation, and disposal of asbestos-containing materials.
- § 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: and the Contractor shall furnish a Performance Bond and a Payment Bond covering the faithful performance of the Contract and payment of obligations arising thereof. Bonds may be obtained through the Contractor's usual source and the cost thereof shall be included in the Contract Sum. The amount of each bond shall be equal to 100% of the Contract Sum. Should the Contract Sum change during the contract and warranty periods, the amount of the Bonds will be changed to reflect the Contract Sum.

- .1 The Contractor shall deliver the required bonds to the Owner at the same time as the signed Contract Agreement is delivered to the Owner. Prior to the commencement of the Work, the Contractor shall submit satisfactory evidence that such bonds will be furnished.

(Specify type and penal sum of bonds.)

- .2 The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

| | |
|------|--------------------|
| 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.**3**

The Contract Bonds shall continue in effect for one year after final acceptance of each contract to protect the Owner's interest in connection with the one year guarantee of workmanship and materials

and to assure settlement of claims, for the payment of all bills for labor, materials, and equipment by the Contractor.

ARTICLE A.4 SPECIAL TERMS AND CONDITIONS

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

N/A



Init.

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User Notes:

(1467185228)

00 73 46
State of Maine
Department of Labor
Bureau of Labor Standards
Augusta, Maine 04333-0045
Telephone (207) 623-7906

Wage Determination - In accordance with 26 MRS §1301 et. seq., this is a determination by the Bureau of Labor Standards, of the fair minimum wage rate to be paid to laborers and workers employed on the below titled project.

2026 Fair Minimum Wage Rates – Building 2 Cumberland County (other than 1 or 2 family homes)

| Occupational Title | Minimum Wage | Minimum Benefit | Total |
|--|---------------------|------------------------|--------------|
| Brickmasons and Blockmasons | \$43.91 | \$11.02 | \$54.93 |
| Bulldozer Operator | \$30.62 | \$5.38 | \$36.00 |
| Carpenter | \$30.01 | \$19.69 | \$49.70 |
| Cement Masons and Concrete Finisher | \$45.38 | \$34.84 | \$80.22 |
| Construction and Maintenance Painters | \$26.23 | \$2.81 | \$29.04 |
| Construction Laborer | \$21.90 | \$19.72 | \$41.62 |
| Conveyor Operators and Tenders | \$30.17 | \$13.77 | \$43.94 |
| Crane and Tower Operators | \$40.43 | \$8.63 | \$49.06 |
| Crushing Grinding and Polishing Machine Operators | \$26.15 | \$3.24 | \$29.39 |
| Earth Drillers - Except Oil and Gas | \$25.04 | \$3.77 | \$28.81 |
| Electrical Power - Line Installer and Repairers | \$48.12 | \$15.63 | \$63.75 |
| Electricians | \$38.75 | \$21.52 | \$60.27 |
| Elevator Installers and Repairers | \$72.19 | \$44.52 | \$116.71 |
| Excavator Operator | \$31.75 | \$5.53 | \$37.28 |
| Fence Erectors | \$26.69 | \$3.29 | \$29.98 |
| Flagger | \$21.39 | \$0.86 | \$22.25 |
| Floor Layers - Except Carpet/Wood/Hard Tiles | \$29.00 | \$8.65 | \$37.65 |
| Glaziers | \$39.32 | \$19.22 | \$58.54 |
| Hazardous Materials Removal Workers | \$25.01 | \$2.04 | \$27.05 |
| Heating and Air Conditioning and Refrigeration Mechanics and Installers | \$36.11 | \$6.39 | \$42.50 |
| Heavy and Tractor - Trailer Truck Drivers | \$26.10 | \$4.07 | \$30.17 |
| Highway Maintenance Workers | \$23.30 | \$1.14 | \$24.44 |
| Industrial Machinery Mechanics | \$29.97 | \$6.74 | \$36.71 |
| Industrial Truck and Tractor Operators | \$24.61 | \$4.21 | \$28.82 |
| Insulation Worker - Mechanical | \$28.57 | \$17.06 | \$45.63 |
| Light Truck or Delivery Services Drivers | \$26.79 | \$5.14 | \$31.93 |
| Loading Machine and Dragline Operators | \$26.99 | \$5.12 | \$32.11 |
| Millwrights | \$35.99 | \$10.52 | \$46.51 |
| Mobile Heavy Equipment Mechanics - Except Engines | \$26.43 | \$5.48 | \$31.91 |
| Operating Engineers and Other Equipment Operators | \$47.25 | \$31.30 | \$78.55 |
| Paving Surfacing and Tamping Equipment Operators | \$30.74 | \$10.67 | \$41.41 |
| Pile-Driver Operators | \$37.15 | \$3.12 | \$40.27 |
| Pipe/Steam/Sprinkler Fitter | \$43.76 | \$25.44 | \$69.20 |
| Pipelayers | \$28.75 | \$3.64 | \$32.39 |
| Plumbers | \$40.00 | \$24.71 | \$64.71 |
| Radio Cellular and Tower Equipment Installers | \$34.72 | \$5.63 | \$40.35 |
| Reinforcing Iron and Rebar Workers | \$48.19 | \$1.93 | \$50.12 |
| Riggers | \$32.94 | \$25.00 | \$57.94 |
| Roofers | \$28.42 | \$4.56 | \$32.98 |
| Sheet Metal Workers | \$30.18 | \$6.64 | \$36.82 |
| Structural Iron and Steel Workers | \$27.16 | \$21.25 | \$48.41 |
| Tapers | \$31.43 | \$5.47 | \$36.90 |
| Telecommunications Equipment Installers and Repairers - Except Line Installers | \$32.28 | \$14.53 | \$46.81 |
| Telecommunications Line Installers and Repairers | \$34.84 | \$17.48 | \$52.32 |
| Tile and Marble Setters | \$28.91 | \$5.46 | \$34.37 |

Welders are classified as the trade to which welding is incidental (e.g. welding structural steel is Structural Iron and Steel Worker)


Apprentices – The minimum wage rates for registered apprentices are the rates recognized in the sponsorship agreement for registered apprentices working in the pertinent classification.

For any other specific trade on this project not listed above, contact the Bureau of Labor Standards for further clarification.

Title 26 §1310 requires that a clearly legible statement of all fair minimum wage and benefits rates to be paid the several classes of laborers, workers and mechanics employed on the construction on the public work must be kept posted in a prominent and easily accessible place at the site by each contractor and subcontractor subject to sections 1304 to 1313.

Appeal – Any person affected by the determination of these rates may appeal to the Commissioner of Labor by filing a written notice with the Commissioner stating the specific grounds of the objection within ten (10) days from the filing of these rates.

A true copy

Attest: 
Scott R. Cotnoir
Wage & Hour Director
Bureau of Labor Standards

Supersedes 02-03-2025
Effective 01-10-2026

SECTION 01 11 00
SUMMARY OF WORK

PART 1 GENERAL

1.01 SUMMARY

- A. The project consists of replacement of shower partitions and related work in twelve existing group shower rooms in Upton Hastings Hall. This project will remove and replace existing ceiling hung shower partitions with taller floor hung shower partitions to create increased visual privacy between stalls. Shower lighting, sprinkler piping, and mechanical ventilation will be modified. Reconstructing the soffit above the shower and changing stalls is required to accommodate the revised mechanical and sprinkler layout. Existing floor tile, wall tile, and plumbing fixtures are intended to remain. Selective demolition and testing have determined that hazardous material abatement is required prior to renovation activities.

Construction Start Date: May 18, 2026
Substantial completion date: August 21, 2026

END OF SECTION 01 11 00

SECTION 01 14 00
WORK RESTRICTIONS

PART 1 GENERAL

1.01 PROJECT CONDITIONS

A. Tobacco Free Campus Policy: On January 1, 2011 the University System adopted a tobacco free campus policy. As of January 1, 2012 compliance with the tobacco free campus policy became mandatory. This paragraph serves as notification to Contractor of the policy and provides the parameters of compliance enforcement. Contractor shall be responsible for notifying its workers and subcontractors regarding the policy and for enforcement of the policy with same. Noncompliance will be managed as follows:

1. First offense – notify Contractor to remind employee and/or subcontractor of policy.
2. Second offense – contractor/subcontractor employee removed from campus for the remainder of the Work.

Additional information regarding the tobacco free campus policy is located at:
<http://umaine.edu/tobaccofree/>

- B. Sexual Harassment will not be tolerated on the campuses of the University of Maine System.
- C. Weapons and Ammunition are not permitted on the campuses of the University of Maine System.
- D. Contractor will be required to provide a site-specific Safety Plan for the project.
- E. Contractor parking will be limited to authorized areas defined by the University of Maine System Representative.
- F. Work Sequence:
1. CONTRACTOR shall construct work in phases or stages to accommodate OWNER'S use and operation of the premises. The CONTRACTOR shall coordinate construction schedule, outages, and operations with OWNER.
 - a. Partial Owner Occupancy: OWNER reserves the right to occupy and operate within spaces and areas before Substantial Completion. The facility shall remain operational for the duration of the project. Work completed shall not interfere with the normal operations of the facility and the placement and operation of equipment and partial occupancy shall not constitute acceptance of the total Work.
 - b. Occupancy Schedule: The following schedule shall be utilized to develop a phased construction schedule to be approved by OWNER.
 - i. Upton-Hastings will be occupied from 7/11/26 through 7/30/26. Two bathrooms per floor must remain operational during partial occupancy.

PART 2 to 3 – Not Used

END OF SECTION 01 14 00

SECTION 01 29 00
PAYMENT PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract Documents, including General Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. The forms for application for payment, duly notarized, shall be the current authorized edition of the AIA Document G702, Application for Payment, supported by a current authorized edition of AIA G703, Continuation Sheet. Samples of these, and other required AIA documents, are provided in the Contract Documents under Division 00 for informational purposes only.

1.03 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.

1.04 SCHEDULE OF VALUES

- A. 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 prior to the pre-construction meeting.
- B. Format and Content: Use the specification 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. Contractor's name and address.
 - d. Date of submittal.
 - 2. Submit draft of AIA G702 Application for Payment form and AIA G703 Continuation Sheet (Schedule of Values) form.
 - 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. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers).
 - g. Dollar value.
 - 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 Specification table of contents. Provide several line items for principal subcontract amounts, where appropriate.

- a. For each line item, provide a sublist breakdown as follows:
 - 1) Material.
 - 2) Labor.
5. Documentation: Submit proper documentation for the amounts being requisitioned from subcontractors and material suppliers with each Application for Payment. Three (3) copies of an Application for Payment or a Payment Requisition are required for all subcontracted work. Three (3) copies of the invoice is required for each major supplier.
6. Stored Materials: If Contractor is requesting payment for stored materials as part of the Application for Payment, Contractor must complete Column F in the G703 Continuation Sheet (Schedule of Values) to record the stored materials amounts against line items that pertain to those stored materials. Stored materials are materials or equipment purchased or fabricated and stored, but not yet installed or incorporated into the Work.
 - a. Complete and provide three (3) copies of 00 62 79 Stored Materials form with all required documentation. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.
 - b. Only major long lead delivery items may be considered for off-site storage (example: long lead custom mechanical unit). Standard order and production materials and products shall be delivered to the site before including in Application for Payment of such items.
7. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
8. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place shall be shown as separate line items in the Schedule of Values.
9. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when approved Change Orders or Construction Change Directives result in a change in the Contract Sum.
10. Retainage: The required five percent (5%) retainage held per Application for Payment submission shall be accounted for on the G703 on a per line item basis. Each line item with a value in Column G "Total Completed and Stored To Date" shall have a corresponding five percent retainage value entered in Column I.
 - a. Final Release of Retainage: The final release of retainage shall be entered as a separate line item on the G703 as "Final Release of Retainage" with the full amount of the five percent retainage entered as a negative number in Column I. The final release of retainage request is submitted as a separate application.

1.05 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: G702 Application for Payment shall be submitted to Architect and Owner not less than seven (7) days before monthly progress meeting. The period covered by each Application for Payment is one (1) month, ending on the last day of the month.
- C. Payment Application Forms: The Contractor is required under the Contract Documents to use official original AIA documents. Samples of the required documents are provided in Division 00 of the Specifications.
- 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 approved Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Transmittal:
1. Submit three (3) signed and notarized originals of:
 - a. AIA G702 Application & Certificate for Payment.
 - b. AIA G703 Continuation Sheet.
 - c. AIA G706 Contractor's Affidavit of Payment of Debts & Claims.
 - d. AIA G706A Contractor's Affidavit of Release of Liens.
 - e. 00 65 19.17 Waiver of Lien.
 2. Transmit each Application for Payment with a transmittal form listing attachments and recording appropriate information about submission.
- F. Waivers of Mechanic's Lien: With each Application for Payment, submit three (3) copies of waivers of mechanic's lien from subcontractors, sub-subcontractors, major suppliers, and every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
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 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 00 65 19.17 Waiver of Lien forms, executed in a manner acceptable to Owner.
- G. Certified Payrolls: Wages paid to all workers performing work on the Project shall be in accordance with the Section 00 73 64 Wage Determination Schedule for the Project. Contractor shall submit one (1) copy of each weekly certified payroll for Contractor and all subcontractors, sub-subcontractors, sub-sub-subcontractors, etc. performing work on the Project during the time covered by the Application for Payment. The certified payroll shall be completed in accordance with Section 3.4.4 of the A201 General Conditions and contain the following information:
1. Contractor name.
 2. Contractor address.
 3. Period number.
 4. Week ending date.
 5. Employee(s)'s name.
 6. Employee(s)'s job title.
 7. Employee hourly wage:
 - a. Straight time rate.
 - b. Overtime rate.
 8. Hours worked per day (broken down by straight time and overtime hours).
 9. Hours worked per week (broken down by straight time and overtime hours).
 10. Total earned for the week:
 - a. Straight time.
 - b. Overtime.
 11. Benefits that form a part of the wage rate.
 12. The signature and name of the authorized payroll person.
- H. Initial Application for Payment: Administrative actions and submittals that must precede submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of Values.

3. Contractor's Construction Schedule.
 4. Submittals Schedule.
 5. List of Contractor's staff assignments.
 6. List of Contractor's principal consultants.
 7. Copies of building permits and other required permits.
 8. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 9. Initial progress report.
 10. Report of preconstruction conference.
 11. Insurance verification through submission of insurance certificates, for all Subcontractors.
- I. Progress Applications for Payment: Administrative actions and submittals that must precede or coincide with submittal of progress Applications for Payment include the following:
1. Contractor's Construction Schedule update.
 2. Submittals for Work being requisitioned that are complete and approved.
 3. Submission of list of completed tests, checklists, commissioning, reports, and similar requirements for the work that are submitted and in compliance with the Contract Documents.
 4. Distribution of minutes of previous month's progress meeting.
 5. Current record drawings.
- J. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion, less retainage, for portion of the Work claimed as substantially complete. Application must:
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. Reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- K. 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 fees and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA G707 Consent of Surety to Final Payment, three (3) originals.
 5. Evidence that claims have been settled.
 6. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 7. Final, liquidated damages settlement statement, if a liquidated damages claim has been processed.
 8. As-built drawings.
 9. Operation and maintenance manuals.
 10. Final lien waivers.
 11. All training and equipment testing is complete.

PART 2 to 3 – Not Used

END OF SECTION 01 29 00

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Submittal procedures.
- B. Proposed products list.
- C. Shop drawings and product data.
- D. Manufacturers' instructions.
- E. Manufacturers' certificates.

1.02 SUBMITTAL PROCEDURES

- A. Identify Project, Contractor, Subcontractor or Supplier, pertinent Drawing sheet and detail number(s), and Specification Section number, as appropriate.
- B. Apply Contractor's stamp, signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
- C. Schedule submittals to expedite the Project, and deliver to Architect/Engineer at business address. Coordinate submission of related items.
- D. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
- E. Revise and resubmit submittals when changes occur; identify all changes made since previous submittal.
- F. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

1.03 PROPOSED PRODUCTS LIST

- A. Submit complete list of major products proposed for use, with name of manufacturer and trade name of each product.

1.04 SHOP DRAWINGS AND PRODUCT DATA

- A. Submit electronic PDFs of all submittals organized with cover sheet and contractor's review of submittal, which will be reviewed by Architect/Engineer.

1.05 MANUFACTURERS' INSTRUCTIONS

- A. Submit manufacturers' printed instructions for delivery, storage, assembly, installation, and finishing. Submit in electronic format (PDF).
- B. Identify conflicts between manufacturers' instructions and Contract Documents.

1.06 MANUFACTURERS' CERTIFICATES

- A. When specified in individual Specification Sections, submit manufacturers' certificates to Architect/Engineer for review, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Architect/Engineer.

1.07 SCHEDULE

- A. Within ten (10) days after signing the Contract, the Contractor shall submit a schedule in either bar chart or CPM format, sufficiently detailed so that actual progress may be easily compared with scheduled progress.

PART 2 to 3 – Not Used

END OF SECTION 01 33 00

UPTON-HASTINGS BATHROOM RENOVATIONS
 UNIVERSITY OF SOUTHERN MAINE
 GORHAM, ME

| MASTERWORKS SUBMITTAL LOG | | | | | | | | | | | | | | | | | | | |
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| PROJECT: UPTON-HASTINGS BATHROOM RENOVATIONS OWNER: UNIVERSITY OF SOUTHERN MAINE | | | | | | | PROJECT NO: 22502.09 CONTRACTOR: | | | | | | | | | | | | |
| DATE REC'D. | SPECIFICATION SECTION NO. | SUBMITTAL ITEM | CONTRACTOR SUBCONTRACTOR | NO. RECEIVED | OTHER REVIEWER | | | | | ACTION | | | | | COPIES TO | | | | |
| | | | | | DATE SENT | FIRM | NO. COPIES | DUE DATE | DATE REC'D. | APPROVED | APPROVED AS NOTED | REVISE & RESUBMIT | NOT APP' D. | DATE RETURNED | CONTRACTOR | OWNER | FIELD | FILE | |
| | 022600 | ASBESTOS ABATEMENT | | | | | | | | | | | | | | | | | |
| | | Work Practices and Procedures | | | | | | | | | | | | | | | | | |
| | | Product and Equipment Data | | | | | | | | | | | | | | | | | |
| | | Personnel, Training, Medical, and Respiratory Fit Test Documentation | | | | | | | | | | | | | | | | | |
| | | Contractor's License | | | | | | | | | | | | | | | | | |
| | | Independent Asbestos Abatement Project Monitor (APM) | | | | | | | | | | | | | | | | | |
| | 024119 | SELECTIVE DEMOLITION | | | | | | | | | | | | | | | | | |
| | | Proposed Protection Measure | | | | | | | | | | | | | | | | | |
| | | Schedule of Selective Demolition Activities | | | | | | | | | | | | | | | | | |
| | 092216 | NON-STRUCTURAL METAL FRAMING | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | |
| | | Shop Drawings | | | | | | | | | | | | | | | | | |
| | | Product Certificates | | | | | | | | | | | | | | | | | |
| | 092900 | GYPSUM BOARD | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | |
| | 099123 | INTERIOR PAINTING | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | |
| | | Product Schedule | | | | | | | | | | | | | | | | | |
| | 102116.19 | PLASTIC SHOWER AND DRESSING COMPARTMENTS | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | |
| | | Shop Drawings | | | | | | | | | | | | | | | | | |
| | | Samples for Initial Selection | | | | | | | | | | | | | | | | | |
| | | Material Test Reports | | | | | | | | | | | | | | | | | |
| | | Operation and Maintenance Data | | | | | | | | | | | | | | | | | |
| | 210500 | COMMON WORK RESULTS FOR FIRE SUPPRESSION | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | |
| | 210529 | HANGERS AND SUPPORTS FOR FIRE-SUPPRESSION PIPING AND EQUIPMENT | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | |
| | 211000 | WATER-BASED FIRE-SUPPRESSION | | | | | | | | | | | | | | | | | |

UPTON-HASTINGS BATHROOM RENOVATIONS
 UNIVERSITY OF SOUTHERN MAINE
 GORHAM, ME

| MASTERWORKS SUBMITTAL LOG | | | | | | | | | | | | | | | | | | | | |
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| | | | | | DATE SENT | FIRM | NO. COPIES | DUE DATE | DATE REC'D. | APPROVED | APPROVED AS NOTED | REVISE & RESUBMIT | NOT APP' D. | DATE RETURNED | CONTRACTOR | OWNER | FIELD | FILE | | |
| | | SYSTEMS | | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | | |
| | | Shop Drawings | | | | | | | | | | | | | | | | | | |
| | | Delegated Design | | | | | | | | | | | | | | | | | | |
| | | Coordination Drawings | | | | | | | | | | | | | | | | | | |
| | | Qualification Statements | | | | | | | | | | | | | | | | | | |
| | | Field Quality-Control Reports | | | | | | | | | | | | | | | | | | |
| | | Design Data | | | | | | | | | | | | | | | | | | |
| | | Field Test Reports | | | | | | | | | | | | | | | | | | |
| | | Operation and Maintenance Data | | | | | | | | | | | | | | | | | | |
| | | Furnish Extra Materials | | | | | | | | | | | | | | | | | | |
| | 230593 | TESTING, ADJUSTING, AND BALANCING FOR HVAC | | | | | | | | | | | | | | | | | | |
| | | Qualification Statements | | | | | | | | | | | | | | | | | | |
| | | Contract Documents Examination Report | | | | | | | | | | | | | | | | | | |
| | | Strategies and Procedures Plan | | | | | | | | | | | | | | | | | | |
| | | System Readiness Checklists | | | | | | | | | | | | | | | | | | |
| | | Certified TAB Reports | | | | | | | | | | | | | | | | | | |
| | | Sample Report Forms | | | | | | | | | | | | | | | | | | |
| | | Instrument Calibration Reports | | | | | | | | | | | | | | | | | | |
| | 233113 | METAL DUCTS | | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | | |
| | | Delegated Design | | | | | | | | | | | | | | | | | | |
| | | Field Quality Control Reports | | | | | | | | | | | | | | | | | | |
| | 233300 | AIR DUCT ACCESSORIES | | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | | |
| | | Operation and Maintenance Data | | | | | | | | | | | | | | | | | | |
| | 233713.23 | REGISTERS AND GRILLES | | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | | |
| | 260010 | SUPPLEMENTAL REQUIREMENTS FOR ELECTRICAL | | | | | | | | | | | | | | | | | | |
| | | Coordination Drawings | | | | | | | | | | | | | | | | | | |
| | | Electrical Installation Schedule | | | | | | | | | | | | | | | | | | |

UPTON-HASTINGS BATHROOM RENOVATIONS
 UNIVERSITY OF SOUTHERN MAINE
 GORHAM, ME

| MASTERWORKS SUBMITTAL LOG | | | | | | | | | | | | | | | | | | | | |
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| | | Operation and Maintenance Data | | | | | | | | | | | | | | | | | | |
| | 260519 | LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES | | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | | |
| | | Product Schedule | | | | | | | | | | | | | | | | | | |
| | | Field Quality-Control Reports | | | | | | | | | | | | | | | | | | |
| | 260526 | GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS | | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | | |
| | | Field Quality-Control Reports | | | | | | | | | | | | | | | | | | |
| | 260529 | HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS | | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | | |
| | 260533.13 | CONDUITS FOR ELECTRICAL SYSTEMS | | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | | |
| | | Field Quality-Control Reports | | | | | | | | | | | | | | | | | | |
| | | Manufacturer's Published Instructions | | | | | | | | | | | | | | | | | | |
| | 260533.16 | BOXES AND COVERS FOR ELECTRICAL SYSTEMS | | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | | |
| | | Manufacturer's Published Instructions | | | | | | | | | | | | | | | | | | |
| | 260553 | IDENTIFICATION FOR ELECTRICAL SYSTEMS | | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | | |
| | | Identification Schedule | | | | | | | | | | | | | | | | | | |
| | 265000 | LIGHTING | | | | | | | | | | | | | | | | | | |
| | | Product Data | | | | | | | | | | | | | | | | | | |
| | | Field Quality-Control Reports | | | | | | | | | | | | | | | | | | |
| | | Manufacturer's Published Instructions | | | | | | | | | | | | | | | | | | |
| | | Warranty | | | | | | | | | | | | | | | | | | |

END SUBMITTAL REGISTER

SECTION 01 77 00
CLOSEOUT PROCEDURES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Administrative provisions for Substantial Completion and for final acceptance.

1.02 SUBSTANTIAL COMPLETION

- A. When Contractor considers work, or designated portion of work, is substantially complete, submit written notice with list of items to be completed or corrected.
- B. Should Owner inspection find work is not substantially complete, Owner will promptly notify Contractor in writing, listing observed deficiencies.
- C. Contractor shall remedy deficiencies and send a second written notice of substantial completion.
- D. When Owner finds work is substantially complete, Owner will prepare a Certificate of Substantial Completion in accordance with provisions of the General Conditions.

1.03 FINAL COMPLETION

- A. When Contractor considers work is complete, submit written certification that:
 - 1. Contract Documents have been reviewed.
 - 2. Work has been inspected for compliance with Contract Documents.
 - 3. Work has been completed in accordance with Contract Documents and deficiencies listed with Certificate of Substantial Completion have been corrected.
 - 4. Equipment and systems have been tested, adjusted and balanced and are fully operational.
 - 5. Operation of systems has been demonstrated to Owner's personnel.
 - 6. Work is complete and ready for final inspection.
- B. Should Owner inspection find work incomplete, Owner will promptly notify Contractor in writing, listing observed deficiencies.
- C. Contractor shall remedy deficiencies and send a second certification of final completion.
- D. When Owner finds work is complete, Owner will consider closeout submittals.

1.04 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.
- B. Warranties and bonds. Submit originals and in PDF format.
- C. Spare parts and maintenance Materials.
- D. Evidence of payment and Releases of Lien.

1.05 APPLICATION FOR FINAL PAYMENT

- A. Submit application for final payment in accordance with provisions of Conditions of the Contract.

1.06 GUARANTEE

- A. Neither the final requisition for payment nor any provision in the Contract Documents nor partial or entire use or occupancy of the building by the Owner shall constitute an acceptance of work done in accordance with the Contract Documents or relieve the Contractor of liability in respect to express warranties or responsibility for faulty materials or workmanship. The Contractor shall remedy any defects in the work and pay for any damage to other work resulting therefrom which shall appear within one year from the date of final acceptance unless a longer period is specified. The Owner will give notice of observed defects with reasonable promptness.
- B. Although subcontractors shall, throughout these Specifications, be required to provide guarantees for their respective work, the Contractor, in the last analysis, shall be responsible for all work and the guarantee thereof. In the case of disputes between subcontractors as to fault of problems, it is up to the Contractor to resolve these disputes or accept the cost of repair or replacement himself.

PART 2 to 3 – Not Used

END OF SECTION 01 77 00

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Salvaging nonhazardous demolition and construction waste.
 - 2. Recycling nonhazardous demolition and construction waste.
 - 3. Disposing of nonhazardous demolition and construction waste.
 - 4. Recycling of DEP-Regulated Universal waste.
- B. Related Requirements:
 - 1. Section 024119 "Selective Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements.
 - 2. Refer to drawings for additional information.

1.3 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Reused or Salvaged: Recovery of demolition or construction waste and subsequent sale, donation, or reuse in another facility or incorporated into the Work.
- F. Universal Waste: Any waste designated by the Maine Department of Environmental Protection as Universal Waste i.e. fluorescent lamps, ballasts, thermostats and other lead and mercury containing devices. Information can be found on the DEP's website:
<http://www.maine.gov/dep/index.html>

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- G. USM Waste Minimization Policy: This policy and additional Information on recycling and waste can be found on the USM Recycling Website:
<http://www.usm.maine.edu/sustainability/recycling>

1.4 PERFORMANCE REQUIREMENTS

- A. General: Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators by sorting prior to leaving the jobsite. Facilitate recycling and salvage of materials. All waste must be disposed of at facilities that operate in accordance with all local, state, and federal waste regulations. Documentation of compliance can be requested by the University of Southern Maine at any time.

1.5 SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Submit 'Anticipated Project Waste Sheet' before commencement of work.
- C. Submit 'Waste Reporting Sheet' monthly with each Pay Requisition during the course of the project and prior to Final Requisition.
1. Include the following information on Waste Reporting Sheet:
 - a. Date of disposal
 - b. Type of material(s)
 - c. Method(s) of disposal: recycled, reused/salvaged, landfilled, incinerated.
 - d. Weight(s): attach copies of scale tickets to form (see below)
- D. Copies of scale tickets from waste facilities, including transfer and processing facilities, for each haul must be attached to monthly 'Project Waste Sheet' on which the waste is listed.
- E. Copies of Certificates of Recycling from DEP-approved consolidators for all hauls over the course of the project which involved Universal Waste must be attached to final Waste Reporting Sheet at conclusion of project.
- F. Copy of Certificate of Refrigerant Recovery must be attached to Waste Reporting Sheet on which device is listed. Refrigerant Recovery must be performed by an EPA-approved Refrigerant Recovery Technician.

1.6 QUALITY ASSURANCE

- A. Contractors must designate someone in their employ (a direct paid employee of the general contractor) to be the contact for waste reporting for the duration of the project.
- B. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.

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- C. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
 - 1. For any questions or clarifications of waste handling procedures contact the USM project manager directly.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 RECYCLING / SALVAGING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers in accordance with USM Waste Minimization policy.
- B. Preparation of Waste: Prepare and maintain recyclable and salvageable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling or reusing process.
- C. Procedures: Separate recyclable and salvageable waste from other waste materials, trash, and debris. Sort recyclable waste by type at Project site to the maximum extent practical.
 - 1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - 2. Inspect containers and bins for contamination and remove contaminated materials if found.

3.2 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged/reused or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

END OF SECTION



Anticipated Project Waste Sheet

Building, Campus: _____ Project Description: _____

Company Name: _____ Project Number: _____

Designated Contact: _____ Phone: _____ Date: _____

List types of waste materials anticipated throughout the duration of the project. Include demolition waste, bulky waste, product packaging, and anything generated that will need to be disposed of. Complete a second sheet if additional space is necessary. Include estimates of quantities, if able. In the second column describe proposed method of disposal, if known. In the third column estimate when the waste will be generated over the duration of the project.

| Waste Materials / Quantities | Method of Disposal | Week # / Date |
|------------------------------|--------------------|---------------|
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Questions: contact Steve Sweeney, Resource Recovery Supervisor, USM Facilities Management: (207) 780-4160



Waste Reporting Sheet

Building, Campus: _____ Description of Project: _____

Company Name: _____ Project Number: _____

Designated Contact: _____ Phone: _____ Date: _____

This form must be filled out and submitted monthly with each Pay Requisition throughout the duration of the project and once prior to Final Requisition. Attach all scale tickets for items listed on the form.

Disposal: Recycled, Reused, Salvaged, Donated, Incinerated, Landfilled. Include packaging material. Project waste generated:

| Date | Material | Weight | Disposal/ Destination |
|------|----------|--------|-----------------------|
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Questions: contact Steve Sweeney, Resource Recovery Supervisor, USM Facilities Management: (207) 780-4160

SECTION 022600 - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Summary: Remove identified Asbestos-Containing Materials (ACM) impacted by work associated with the planned Upton-Hastings Hall Bathroom Renovations.

This Section includes furnishing labor, materials, equipment, supplies, and performing all operations necessary to complete the removal of ACM by competent persons trained, knowledgeable and qualified in the techniques of asbestos abatement, handling and disposal of ACM and asbestos-contaminated materials and the subsequent cleaning of contaminated areas, and complying with all applicable federal, state, and local regulations in accordance with the attached drawings and these specifications.

- C. The work to be performed under this Contract consists of the removal and disposal of identified ACM present on the interior of the 2nd, 3rd, and 4th Floor Bathrooms and impacted by the planned renovation work to the shower partitions and as referenced in *Targeted Hazardous Materials Assessment for Renovation Upton-Hastings Hall Bathrooms USM, Gorham Campus* at the end of this Section.

The CONTRACTOR is responsible for determining actual quantities of identified ACM and non-ACM building materials to be removed.

- D. The CONTRACTOR shall be responsible for preparation of a site-specific asbestos abatement project design and work plan for each work area. An Asbestos Abatement Design Consultant licensed by the MDEP will prepare the design.
- E. The CONTRACTOR shall be responsible for the submission of all appropriate federal and state notifications and associated fees.
- F. The CONTRACTOR shall be responsible for providing an independent air monitor for all visual evaluations and air clearances as required.
- G. The CONTRACTOR shall be responsible for conducting personal monitoring on their employees during abatement activities.

1.2 RELATED REQUIREMENTS

- A. Section 024119 "Selective Demolition"
- B. Drawings, Project Manual, and general provisions of the Contract, including, without limitation, General Conditions of the Contract, additional General Conditions of the Contract, and Division 00 and Division 01 specification sections, apply to this section.

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1.3 REFERENCES

A. Code of Federal Regulations (CFR) Publications:

1. 29 CFR 1910.1001 - General Industry Standard for Asbestos.
2. 29 CFR 1926.1101 - Construction Standard for Asbestos.
3. 29 CFR 1910.134 - General Industry Standard for Respiratory Protection.
4. 29 CFR 1910.120 - Hazard Communication.
5. 40 CFR 61 Federal Register Vol. 49, April 5, 1984 Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAPS) - Asbestos.

B. Applicable State Regulations:

1. 06-096 State of Maine, Department of Environmental Protection (MDEP), Chapter 425, Asbestos Management Regulations (effective date: April 3, 2011).
2. CMR 411 State of Maine, Non-Hazardous Waste Transporter Licensing Regulations.
3. CMR 405 State of Maine, Solid Waste Management Regulations.

1.4 SUBMITTALS

A. Submittals will be received by the OWNER in accordance with this section before material or equipment is purchased or work is performed. The CONTRACTOR shall submit to the OWNER, for review, two copies of the information required herein. The adequacy and accuracy of submittals and their compliance with contract documents are the responsibility of the CONTRACTOR. All reviewing actions taken by the OWNER will in no way relieve the CONTRACTOR of his/her quality control requirements.

B. General

The CONTRACTOR shall submit:

1. A list of proposed subcontractors with their addresses, specialties and qualifications.
2. Certificate of Insurance indicating coverage for asbestos abatement work.

C. Work Practices and Procedures:

1. Design and Work Plan: The CONTRACTOR shall be responsible for preparation of a site-specific asbestos abatement project design and work plan for each work area. An Asbestos Abatement Design Consultant licensed by the MDEP will prepare the design.

The CONTRACTOR shall submit a written work plan and sketches of the work procedures to be used in the removal, disposal, and replacement of materials. The abatement plan will include location of asbestos control area, decontamination area, equipment decontamination enclosure, interface of trades involved in the construction, sequencing of asbestos-related work, disposal plan, type of wetting agent and sealant to be used, site specific air monitoring plan, personal air monitoring program and a description of the method to be employed to reduce fiber releases. For each work area, the abatement plan will show point of controlled access to the building for transporting ACM from the regulated area to the exterior of the building. The abatement plan will show auxiliary

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- make-up air points, location of HEPA exhaust ventilation units, location of HEPA exhaust and location of pressure differential monitor(s).
2. Project Log: The CONTRACTOR shall maintain a Project Log throughout the project. The log will contain notes concerning accidents that may happen and deviation from standard work procedures and project information. At project completion, the original log will be submitted to the ENGINEER.
 3. Waste Disposal: The CONTRACTOR shall identify the proposed waste disposal landfill for the project and provide a copy of the state approval certification.
 4. Permits: The CONTRACTOR shall provide a list of all permits, licenses, or manifests to be applied for, including notification of the MDEP.
 5. The CONTRACTOR shall prepare, for signature by the OWNER, a MDEP *Project Monitoring Disclosure Form*.
 6. The CONTRACTOR shall prepare for signature by the OWNER, a MDEP *Asbestos Consultant Independent Business Relationship Disclosure Form*.

- D. Product and Equipment Data: Submit manufacturers' literature, catalog cuts and product data sheets for products and equipment to be used in this abatement project. Attach Safety Data Sheets (SDS) to Product Data Sheets.

SDS for products containing chemicals the CONTRACTOR may be utilizing on the project will be submitted. The CONTRACTOR shall submit to the OWNER two copies of the SDS attached to the Product Data sheet for new products brought on site for which an SDS has not been previously submitted. This submission does not relieve the CONTRACTOR of the OSHA requirements of CONTRACTOR responsibilities with reference to the SDS nor does it relieve the CONTRACTOR of responsibility for the subsequent proper use of the product.

- E. Personnel, Training, Medical, and Respiratory Fit Test Documentation

The CONTRACTOR shall submit the following:

1. Experience Summary: Submit name and experience summary of proposed project supervisors and foremen.
2. Personnel: Submit copies of Personnel Training Certificates, Medical Examinations, Medical Questionnaires, and Respirator Fit Tests:
 - a. Summary Sheet: Submit a summary sheet of employees, listed in alphabetical order, to include name, social security number, classification, MDEP certificate number and dates of training, medical examinations, medical questionnaires and respirator fit tests.

- F. CONTRACTOR's License: Submit a copy of the CONTRACTOR's MDEP license and the name of the CONTRACTOR's project Contract Representative.

- G. Independent Asbestos Abatement Project Monitor (APM): Submit the name, associated firm and copy of MDEP license of the independent APM.

1.5 QUALITY ASSURANCE

- A. Job Site References: The CONTRACTOR shall have on site at all times at least one copy of the following:

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1. Project Manual including Drawings and Specifications.
2. Guidance for Controlling Asbestos Containing Materials in Building (EPA 560/5-85-024), June 1985.
3. Asbestos Waste Management Guidance (EPA/530-SW-85-007) May 1985.
4. A Guide to Respiratory Protection for the Asbestos Abatement Industry (EPA-560-OPTS-86-001), September 1986.
5. Federal Register - Part II - OSHA - 29 CFR Parts 1910 and 1926.
6. 40 CFR Part 61 Subpart M - NESHAPs Asbestos.
7. 06-096 MDEP Chapter 425 Asbestos Management Regulations (effective date April 3, 2011).

B. Safety Compliance: The CONTRACTOR shall, in addition to detailed requirements of this specification:

1. Comply with laws, ordinances, rules and regulations of federal, state, regional and local authorities regarding handling, storing, transporting and disposing of asbestos waste materials.
2. Comply with the applicable requirements of the current issue of 29 CFR 1910.1001; 40 CFR 61, Subparts M and 29 CFR 1926.1101.
3. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification and referenced documents vary, the most stringent requirement will apply.

C. Respirator Program: The CONTRACTOR shall establish a respirator program as required by 29 CFR 1910.1001 and 1926.1101. This program will comply with all paragraphs of 29 CFR 1910.134.

1.6 AUTHORITY TO STOP WORK

A. The Owner has the authority to stop the abatement work at any time that conditions are not within the specifications and applicable regulations. The stoppage of work will continue until conditions have been corrected and corrective steps have been taken to the satisfaction of the Owner. Standby time required for the CONTRACTOR's personnel and the APM to resolve violations will be at the CONTRACTOR's expense.

B. Stop-Work Airborne Fiber Levels will be as follows:

1. Inside Work Area (Removal): 0.5 f/cc (with wet methods).
2. Outside Work Area: 0.01 f/cc as measured in clean room and/or the HEPA exhaust.

C. Stop work orders will be issued for, but not be limited, to the following:

1. Excessive airborne fiber concentrations inside and/or outside the work area.
2. Breaks in containment barriers.
3. Loss of negative air pressure (0.02 inches of water – minimum negative pressure to be maintained).
4. Failure of workers to wear appropriate respiratory protection.

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PART 2 - PRODUCTS

2.1 MATERIALS

- A. The CONTRACTOR shall furnish materials as necessary to perform the work specified herein and to comply with current MDEP Chapter 425, Asbestos Management Regulations.
- B. Flame retardant polyethylene (poly) sheeting will be used for all asbestos abatement applications.

2.2 GENERAL EQUIPMENT TO BE PROVIDED BY CONTRACTOR

- A. The CONTRACTOR shall furnish equipment, including personnel protective equipment, as necessary to perform the work specified herein and to comply with current MDEP Asbestos Management Regulations.
- B. Workers and authorized visitors exposed to airborne concentrations of asbestos fibers will be provided with disposable, protective, whole-body clothing, head coverings, gloves, and foot coverings, and use of tape. Protective clothing will be provided to all workers and authorized visitors in sizes adequate to accommodate movement without tearing. Goggles will be provided in accordance with ANSI Z87.1 to personnel engaged in certain asbestos operations when a full-face respirator is not required.
- C. The CONTRACTOR shall provide connections to existing water and electrical service provided by the OWNER as necessary to perform asbestos abatement related activities.

2.3 ENCAPSULANTS

- A. If required, a spray type encapsulant will be used as a lockdown of exposed surfaces and piping. The encapsulant will be able to withstand heat and have the capacity to be applied pre-heated.

2.4 ELECTRICAL

- A. All electrical installations or modifications (including de-energization for the purposes of demolition of electrical components) will be accomplished under the direction of a Licensed Master Electrician. The CONTRACTOR shall coordinate all electrical work with the Owner.
- C. Ground fault circuit interrupters (GFCI) will be provided for all electrical equipment, to be installed outside the work area so that there is no live GFCI-protected electrical wiring inside the work area. The CONTRACTOR shall furnish and install a portable GFCI Power Supply Board and receptacles including the following:
 - 1. All circuits individually GFCI-protected.
 - 2. Weatherproof enclosure NEMA 3 (rain-tight) with receptacle covers.
 - 3. Construction durable, 16-gauge steel construction.
 - 4. At least two 20-amp circuits (for APM).
 - 5. Main circuit breaker.
 - 6. Components UL listed.

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- D. The Decontamination Facility will be furnished with power supply board with one 20-amp circuit for the APM.

PART 3 - EXECUTION

3.1 WORKER PROTECTION

A. General:

1. All asbestos abatement work will be performed in accordance with 29 CFR 1910.1001, 29 CFR 1926.1101, and current MDEP Asbestos Management Regulations and as specified herein.
2. The CONTRACTOR shall provide all authorized visitors with protective clothing, headgear, eye protection, footwear, and hard hats as in the procedures described herein and afford them the use of all facilities to hold them free of contamination of asbestos fibers. All authorized visitors shall be responsible for providing appropriate level of respiratory protection, including filters. Authorized visitors shall provide documentation of current medical surveillance and respirator fit tests before being allowed to enter the asbestos abatement containment.
3. The CONTRACTOR shall provide the decontamination and work procedures to be followed by workers, as well as the results of the personal air monitoring. This information must be posted at the entrance of the clean room.

B. Respiratory Protection:

1. Respiratory protection will be worn by all persons potentially exposed to asbestos from the initiation of the asbestos abatement project until all areas have been given clearance. Clearance will be obtained by visual observation and air monitoring conducted by the APM.
2. Personal samples will be collected within the worker's breathing zone. Personal sampling will be the responsibility of the CONTRACTOR. Personal sampling results will be available on site no later than 24 hours after sampling.
3. The filters provided for respirators used during the course of this work will be NIOSH approved for asbestos fibers.

C. Protective Clothing:

1. The CONTRACTOR shall provide to all workers, foreman and superintendents, protective disposable clothing consisting of full body coveralls, head covers, gloves and 18-inch-high boot-type covers and reusable footwear.
2. The CONTRACTOR shall provide eye protection and hard hats as required by job conditions and safety regulations.
3. Reusable footwear, hard hats and eye protection devices will be left in the "contaminated equipment room" until the end of the asbestos abatement work.
4. Upon completion of asbestos abatement, the footwear will be disposed of as contaminated waste or cleaned thoroughly inside and out using soap and water before removing it from the work area or from equipment and access area.

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5. All disposable protective clothing will be discarded and disposed of as asbestos waste when the wearer exits from the workspace to the outside through the decontamination facilities.
6. The color of the disposable clothing worn outside the work area will be a different color than the disposable clothing worn inside the work area.

3.2 DECONTAMINATION FACILITY

- A. For each abatement area the CONTRACTOR shall provide decontamination facilities located in an area established in the Asbestos Abatement Design.
- B. The decontamination facility will be constructed and maintained as specified herein and in compliance with current MDEP Asbestos Management Regulations.

3.3 MAINTENANCE OF THE WORK AREA

- A. The CONTRACTOR shall maintain the work area as specified herein and in compliance with current MDEP Asbestos Management Regulations.

3.4 ASBESTOS CONTROL AREA CONSTRUCTION

- A. The CONTRACTOR shall prepare and maintain the asbestos control area (e.g., the Containment Area) as necessary to perform the work specified herein and in compliance with current MDEP Asbestos Management Regulations.

3.5 ACM ABATEMENT METHODS

- A. ACM Removal:
 1. The CONTRACTOR shall conduct ACM removal as specified herein and in compliance with current MDEP Asbestos Management Regulations.
 2. The CONTRACTOR shall be responsible to obtain work practice variances from MDEP as necessary to complete the work.

3.6 FINAL CLEANUP AND INSPECTION PROCEDURE

- A. Each work area will be evaluated for completion following the removal of visible residue from surfaces of equipment, floors and walls, and the removal of containers and equipment. Waste containers (except those containers necessary for waste from final cleanup) will be packed, cleaned, and removed from the work area prior to final cleanup and monitoring. This evaluation will be completed by the Abatement CONTRACTOR's Supervisor, subsequent to completion of successful asbestos abatement clearance inspection, sampling and analysis for each work area.

Visual evaluation protocol will include:

1. Entering the work area where the abatement/clean-up/remediation activity was performed.
2. Inspection of the surfaces from which ACM and associated residue was removed.

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3. Examination of the permanent features within the work area such as walls, floors, ceilings, conduits, pipes, tanks, etc., and attempting to determine whether residual materials or visible debris is present.
4. Examination of the decontamination and waste-load out facilities and observe whether residual material or visible debris is present. The waste will be evaluated to determine proper containerization and labeling.

- B. The CONTRACTOR shall re-clean if necessary and the area re-inspected.
- C. The CONTRACTOR is responsible for providing final asbestos abatement clearance inspection, sampling and analysis for each work area. Clearances will be performed in accordance with MDEP regulations by an independent, MDEP licensed APM.
- D. After the area passes the clearance inspection, sampling and analysis, the work area may be deregulated.

3.7 DISPOSAL

- A. All waste material shall be properly handled, wetted, containerized, and disposed in accordance with current MDEP Asbestos Management Regulations. The CONTRACTOR shall count or measure the volume of each filled container leaving the work area and will maintain a written record of such.
- B. Warning labels, having waterproof print and permanent adhesive, will be affixed to the sides of all waste bags or transfer containers. Warning labels will be conspicuous and legible and in accordance with 29 CFR 1926.1101.
- C. Removal of wastes (both asbestos and non-asbestos wastes) from the work area will be completed prior to the end of each work shift. Project related wastes will not be allowed to accumulate in the work area.
- D. Once a dumpster or waste container is full, the CONTRACTOR shall arrange for transportation to the landfill, or to a pre-designated and approved off-site temporary location. Waste will not remain on-site longer than five days following completion of asbestos abatement activities.
- E. Waste Transportation and Disposal Regulations:
 1. It is the responsibility of the CONTRACTOR to determine and ensure compliance with the current waste handling regulations applicable to the work site and the current regulations for waste transportation to and disposal at each ultimate landfill. The CONTRACTOR shall comply fully with these regulations and with all U.S. Department of Transportation (DOT) and U.S. Environmental Protection Agency (USEPA) requirements.
 2. If required, the CONTRACTOR (or Subcontractor), at no additional cost, will maintain a valid hazardous waste transporter's permit and identification number and will document and fully comply with any hazardous waste manifesting requirements.
 3. The CONTRACTOR shall provide legal transportation of this waste to the ultimate disposal landfill and will have the waste hauler and landfill owner complete all other required manifests, dump slips, or other forms. The completed original of the Waste

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Shipment Record and copies of the other forms will be sent to the OWNER/ENGINEER within five calendar days.

4. Waste may be transported to and temporarily stored at a pre-approved off-site storage area owned by the CONTRACTOR, but it must ultimately be disposed of at the specified landfill before any payments are made.
- F. Waste Disposal Fees: all contaminated waste handling costs, such as waste packaging, on-site/off-site storing/handling, transport/disposal, permitting, record keeping, and non-contaminated waste handling must be included in the CONTRACTOR'S proposal as applicable to removal of asbestos materials and/or performance of the related abatement activities.

END OF SECTION



NORTHEAST TEST CONSULTANTS

TARGETED HAZARDOUS MATERIALS ASSESSMENT

for

RENOVATION

at

UPTON-HASTINGS HALL BATHROOMS USM, GORHAM CAMPUS

NTC JOB #19867-2026

Prepared for:

*Chantel Tardif
Oak Point Associates
231 Main Street
Biddeford, Maine 04005*

March 31, 2026

**Industrial Hygiene Consultants
Indoor Air Quality • Operations & Maintenance • Mold • Asbestos • Lead Based Paint Testing**



March 31, 2026

Chantel Tardif
Oak Point Associates
231 Main Street
Biddeford, Maine 04005

RE: Targeted Asbestos Materials Assessment
USM Upton-Hastings Hall, Gorham Campus
NTC Job #19867-2026

Dear Ms. Tardif,

Northeast Test Consultants has completed a **Targeted Hazardous Materials Assessment for Asbestos Containing Building Materials and Lead-based Paint** in 12 Bathrooms in Upton-Hastings Hall located at 52 University Way in Gorham, Maine.

The purpose of this assessment was to evaluate for asbestos and lead in paint content in the soffits over Showers for renovation consideration.

PROCEDURES

On March 16, 2026, representatives of *Northeast Test Consultants* were on-site at the property to perform inspection work.

No formal analytical testing for any other specific item or chemical was performed or requested as part of the scope of services provided for this activity.

Any conclusions contained herein are limited by the scope of work performed; no warranty, expressed or implied, is indicated as to any subsurface conditions not specifically noted within this report. This action was targeted in nature for the requested materials only and no other sampling or assessment was performed for any other materials for the interior or exterior of the structure.

Asbestos

The asbestos materials assessment consisted of visual evaluation and sample collection of wall (soffit) plaster by accredited and certified ME DEP asbestos inspector, Michael LeClair, ME #AI-0924.

The collection of suspect asbestos containing building materials was performed in accordance with the *State of Maine Department of Environmental Protection's Asbestos Management Regulations*, Chapter 425, Section 6, Inspection Requirements.

Sampling was comprised of the collection of homogenous materials as follows (in part):

Surfacing Materials -

- A.) At least 3 bulk samples from each homogenous area and/or material that is 1000 square feet or less;
- B.) At least 5 bulk samples from each homogenous area that is greater than 1000 square feet but less than or equal to 5000 square feet; or
- C.) At least 7 bulk samples from each homogenous area that is greater than 5000 square feet.

Miscellaneous Materials -

- A.) 3 samples from each miscellaneous material;
- B.) 1 sample if the amount of misc. material is less than 6 square or linear feet.

State of Maine Department of Environmental Protection's Asbestos Management Regulations, Chapter 425, effective date 4-3-2011, requires analysis of collected samples as follows (in part):

- A. Surfacing materials and thermal system insulation and cementitious materials shall be analyzed using the PLM–EPA 600/R-93/116 visual estimation method (1993).

The *State of Maine* DEP does not require any re-analysis of materials if the sample result is less than 1% by the above PLM Visual and/or PLM NOB methods.

ASBESTOS INSPECTION & SAMPLING

Samples of suspect Plaster, Ceiling Texture and a sample of remnant pipe insulation debris were submitted for PLM-Visual Estimation Method analysis.

In the State of Maine, Department of Environmental Protection's Chapter 425: Asbestos Management Rules, "Asbestos-Containing Material" is defined as any material containing asbestos in quantities greater than or equal to 1% by volume as determined by weight, visual evaluation and/or point count analysis.

Asbestos was identified in the Ceiling Texture in Hastings Core Bathroom #277 and the Remnant Pipe Insulation debris found above the ceiling in Hastings Wing Bathroom #395. All other samples collected were not asbestos.

Refer to the attached analytical data sheet for reference.

Limitations

Any conclusions contained herein are limited by the scope of work performed; no warranty, expressed or implied, is indicated as to any subsurface conditions not specifically noted within this report.

Explanation of Analysis Methods

The collected samples were analyzed utilizing Polarized Light Microscopy (PLM) as PLM-EPA 600/R-93/116 Visual Estimation Method (1993) and PLM NOB-EPA 600/R-93/116 with Gravimetric Preparation.

PLM is a US EPA accepted screening method for asbestos in bulks. This analytical method readily identifies asbestos content quantitatively. However, it can fail in samples where asbestos fibers are very fine or obscured by a tightly binding matrix system.

PLM methods are compiled from standard techniques used in mineralogy and standard laboratory procedures used for asbestos bulk sample analysis. These techniques have been successfully applied to the analysis of US EPA Bulk Sample Analysis Quality Assurance Program since 1982.

RECOMMENDATIONS (*Asbestos in Building Materials*)

The **asbestos containing Ceiling Texture** identified in the Hastings Core Bathroom #277 is a *friable* material and is present in quantities greater than three (3) linear/square feet.

The ceiling texture is not within the scope of work for the upcoming renovation; however, it **abuts** the shower soffit that is to be removed. Removal of the soffit will impact the ceiling where they intersect.

Abatement of the ceiling texture will require properly trained and equipped personnel that are certified by the ME DEP. A ME DEP Asbestos Abatement Design Plan and Asbestos Project Notification paperwork submitted to the ME DEP will also be required.

The **asbestos containing Remnant Pipe Insulation Debris** found above the ceiling in Hastings Wing Bathroom #395 was removed in whole as a sample (B-36). Caution must be used during renovation in the event additional debris is present.

LEAD-BASED PAINT DETERMINATION

Classification of paint with lead content:

EPA / HUD: 0.5% by weight, 5,000 parts per million (ppm) by weight, 1 milligram per square centimeter (mg/cm²).

The Consumer Products Safety Commission (CPSC): >0.009% by weight

OSHA requires employers to manage employee exposure to any level of lead

US EPA recognizes that a waste stream from samples that have a lead concentration <100 milligrams per kilogram (mg/kg) does not need further analytical determination by Toxicity Characteristic Leaching Procedure (TCLP) if the sample is primarily a solid matrix. When samples are reported >100 mg/kg lead concentration, TCLP of the waste stream may be required.

Five samples of paint were collected of representative ceiling and wall paint colors; **White, Off-White, Light Blue, Off-White/Yellow and Blue/Green.**

Two paint samples had lead content above the CSPC level of 0.009% by weight, but below the EPA level of 0.5% by weight. The Off-White wall paint was reported as 0.0094% by weight and the Blue/Green wall paint was 0.011% by weight.

The Blue/Green wall paint was also slightly above the EPA threshold for potential Hazardous Waste. A TCLP sample of the total waste stream will likely test below the threshold of 5.0 milligrams per Liter.

Refer to the attached analytical data sheets for Total Lead analysis.

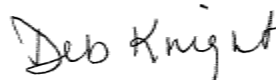
LEAD PAINT RECOMMENDATIONS

None required; no recordable amount of lead is present in the paints sampled.

Please review the attached analytical results for the collected samples for asbestos and lead and photo log.

Should you have any questions regarding this report, please feel free to give me a call.

Sincerely,



Deborah Knight
ME DEP AI, AS, AM, AA, DC
General Manager

Attachments

ASBESTOS BULK RESULTS

Sample Date: 03/16/26
 NTC Job # 19867-2026

Client: Oak Point Associates-ME
P.O. Box 1259
Biddeford, Maine 04005

Location: Upton-Hastings Hall
52 University Way
Gorham, Maine

This report only refers to the sample analyzed and is not necessarily denotative of the quality or condition of overtly identical or similar products. This report is submitted and approved for the use of the client to whom it is addressed. It is not to be used, in part or in whole, in any advertising without prior written authorization from NTC. Sample types, locations and collection properties are based upon the information provided by the persons submitting them and, unless collected by NTC personnel, we explicitly disclaim any knowledge and liability for the accuracy of this data. All rights reserved by Northeast Test Consultants, Westbrook, Maine. This analytical report is provided by NTC and does not indicate endorsement by NVLAP or any agency of the U.S. Government.

| Sample # | Lab # | Location / Description | % & Type of Asbestos | % & Type Fibrous Material | % Non-Fibrous Material |
|----------|---------|--|----------------------|---------------------------|------------------------|
| B - 1 | 1663460 | Hastings Core Bathroom 277, Shower Stall Ceiling, Plaster Base Coat | None Detected | 0% | 100% |
| B - 2 | 1663461 | Hastings Core Bathroom 277, Shower Stall Ceiling, Plaster Base Coat | None Detected | 0% | 100% |
| B - 3 | 1663462 | Hastings Core Bathroom 277, Shower Stall Ceiling, Plaster Base Coat | None Detected | 0% | 100% |
| B - 4 | 1663463 | Hastings Core Bathroom 277, Shower Stall Ceiling, Plaster Skim Coat, White | None Detected | 0% | 100% |
| B - 5 | 1663464 | Hastings Core Bathroom 277, Shower Stall Ceiling, Plaster Skim Coat, White | None Detected | 0% | 100% |
| B - 6 | 1663465 | Hastings Core Bathroom 277, Shower Stall Ceiling, Plaster Skim Coat, White | None Detected | 0% | 100% |
| B - 7 | 1663466 | Hastings Core Bathroom 277, Ceiling Texture , abutting Shower Stall Soffit | 2% Chrysotile | <1% Fiberglass | 98% |
| B - 8 | 1663467 | Hastings Core Bathroom 277, Ceiling Texture , abutting Shower Stall Soffit | 2% Chrysotile | <1% Fiberglass | 98% |
| B - 9 | 1663468 | Hastings Core Bathroom 277, Ceiling Texture , abutting Shower Stall Soffit | 3% Chrysotile | <1% Fiberglass | 97% |

Lab: BATA Laboratories (NVLAP-101032)
 Analysis Method: PLM-EPA 600/R-93/116 and/or PLM NOB-EPA 600/R-93/116 w/Gravimetric Prep

Sampled by: M. LeClair, AI-0924
 Approved by: S. Broadhead

ASBESTOS BULK RESULTS

Sample Date: 03/16/26
 NTC Job # 19867-2026

Client: Oak Point Associates-ME
P.O. Box 1259
Biddeford, Maine 04005

Location: Upton-Hastings Hall
52 University Way
Gorham, Maine

This report only refers to the sample analyzed and is not necessarily denotative of the quality or condition of overtly identical or similar products. This report is submitted and approved for the use of the client to whom it is addressed. It is not to be used, in part or in whole, in any advertising without prior written authorization from NTC. Sample types, locations and collection properties are based upon the information provided by the persons submitting them and, unless collected by NTC personnel, we explicitly disclaim any knowledge and liability for the accuracy of this data. All rights reserved by Northeast Test Consultants, Westbrook, Maine. This analytical report is provided by NTC and does not indicate endorsement by NVLAP or any agency of the U.S. Government.

| Sample # | Lab # | Location / Description | % & Type of Asbestos | % & Type Fibrous Material | % Non-Fibrous Material |
|----------|---------|---|----------------------|---------------------------|------------------------|
| B - 10a | 1663469 | Hastings Wing Bathroom 285, Shower Stall Ceiling, Plaster Skim Coat | None Detected | 0% | 100% |
| B - 10b | 1663470 | Hastings Wing Bathroom 285, Shower Stall Ceiling, Plaster Base Coat | None Detected | 0% | 100% |
| B - 11 | 1663472 | Hastings Wing Bathroom 285, Shower Stall Ceiling, Plaster Base Coat | None Detected | 0% | 100% |
| B - 12 | 1663474 | Hastings Wing Bathroom 285, Shower Stall Ceiling, Plaster Base Coat | None Detected | 0% | 100% |
| B - 13 | 1663475 | Hastings Wing Bathroom 285, Shower Stall Ceiling, Textured Plaster | None Detected | 0% | 100% |
| B - 14 | 1663476 | Hastings Wing Bathroom 285, Shower Stall Ceiling, Textured Plaster | None Detected | 0% | 100% |
| B - 15 | 1663477 | Hastings Wing Bathroom 285, Shower Stall Ceiling, Textured Plaster | None Detected | 0% | 100% |
| B - 16a | 1663478 | Hastings Core Bathroom 227, Shower Stall Ceiling, Plaster Top Coat | None Detected | 0% | 100% |
| B - 16b | 1663479 | Hastings Core Bathroom 227, Shower Stall Ceiling, Plaster Base Coat | None Detected | 0% | 100% |

Lab: BATTA Laboratories (NVLAP-101032)
 Analysis Method: PLM-EPA 600/R-93/116 and/or PLM NOB-EPA 600/R-93/116 w/Gravimetric Prep

Sampled by: M. LeClair, AI-0924
 Approved by: S. Broadhead

ASBESTOS BULK RESULTS

Sample Date: 03/16/26

NTC Job # 19867-2026

Client: Oak Point Associates-ME
P.O. Box 1259
Biddeford, Maine 04005

Location: Upton-Hastings Hall
52 University Way
Gorham, Maine

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| Sample # | Lab # | Location / Description | % & Type of Asbestos | % & Type Fibrous Material | % Non-Fibrous Material |
|----------|---------|---|----------------------|---------------------------|------------------------|
| B - 17a | 1663480 | Hastings Core Bathroom 227, Face of Soffit, Plaster Top Coat | None Detected | 0% | 100% |
| B - 17b | 1663481 | Hastings Core Bathroom 227, Face of Soffit, Plaster Base Coat | None Detected | 0% | 100% |
| B - 18 | 1663483 | Hastings Core Bathroom 227, Shower Stall Ceiling, Plaster Base Coat | None Detected | 0% | 100% |
| B - 19 | 1663484 | Upton Hall Core Bathrom 227, Shower Stall #3, Ceiling Texture, White | None Detected | 0% | 100% |
| B - 20 | 1663485 | Upton Hall Core Bathrom 227, Shower Stall #2, Ceiling Texture, White | None Detected | 0% | 100% |
| B - 21 | 1663486 | Upton Hall Core Bathroom 227, Shower Stall #1, Ceiling Texture, White | None Detected | 0% | 100% |
| B - 22 | 1663487 | Upton Hall Men's Wing Bathroom 231, Shower Stall Ceiling Texture, White | None Detected | 0% | 100% |
| B - 23a | 1663488 | Upton Hall Men's Wing Bathroom 231, Face of Soffit, Plaster Skim Coat | None Detected | 0% | 100% |
| B - 23b | 1664302 | Upton Hall Men's Wing Bathroom 231, Face of Soffit, Plaster Base Coat | None Detected | 0% | 100% |

Lab: BATTA Laboratories (NVLAP-101032)
 Analysis Method: PLM-EPA 600/R-93/116 and/or PLM NOB-EPA 600/R-93/116 w/Gravimetric Prep

Sampled by: M. LeClair, AI-0924

Approved by: S. Broadhead

ASBESTOS BULK RESULTS

Sample Date: 03/16/26
 NTC Job # 19867-2026

Client: Oak Point Associates-ME
P.O. Box 1259
Biddeford, Maine 04005

Location: Upton-Hastings Hall
52 University Way
Gorham, Maine

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| Sample # | Lab # | Location / Description | % & Type of Asbestos | % & Type Fibrous Material | % Non-Fibrous Material |
|----------|---------|--|----------------------|---------------------------|------------------------|
| B - 24 | 1663489 | Hastings Men's Core Bathroom 377, Shower Ceiling, Plaster Skim Coat , White | None Detected | 0% | 100% |
| B - 25 | 1663490 | Hastings Men's Core Bathroom 377, Shower Ceiling, Plaster Base Coat | None Detected | 0% | 100% |
| B - 26a | 1663491 | Hastings Women's Wing Bathroom 395, Shower Ceiling Plaster Skim Coat | None Detected | 0% | 100% |
| B - 26b | 1663492 | Hastings Women's Wing Bathroom 395, Shower Ceiling Plaster Base Coat | None Detected | 0% | 100% |
| B - 27a | 1663493 | Hastings Women's Wing Bathroom 395, Shower Ceiling Plaster Skim Coat | None Detected | 0% | 100% |
| B - 27b | 1663494 | Hastings Women's Wing Bathroom 395, Shower Ceiling Plaster Base Coat | None Detected | 0% | 100% |
| B - 28 | 1663495 | Upton All Gender Core Bathroom 327, Shower Ceiling (Soffit) Plaster | None Detected | 0% | 100% |
| B - 29 | 1663496 | Upton Wing Bathroom 331, Shower Ceiling, Ceiling Texture | None Detected | 0% | 100% |
| B - 30 | 1663498 | Upton Women's Wing Bathroom 331, Shower Stall Ceiling Plaster Base Coat | None Detected | 0% | 100% |

Lab: BATA Laboratories (NVLAP-101032)
 Analysis Method: PLM-EPA 600/R-93/116 and/or PLM NOB-EPA 600/R-93/116 w/Gravimetric Prep

Sampled by: M. LeClair, AI-0924
 Approved by: S. Broadhead

ASBESTOS BULK RESULTS

Sample Date: 03/16/26
 NTC Job # 19867-2026

Client: Oak Point Associates-ME
P.O. Box 1259
Biddeford, Maine 04005

Location: Upton-Hastings Hall
52 University Way
Gorham, Maine

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| Sample # | Lab # | Location / Description | % & Type of Asbestos | % & Type Fibrous Material | % Non-Fibrous Material |
|----------|---------|---|----------------------|---------------------------|------------------------|
| B - 31a | 1663499 | Hastings Women's Core Bathroom 476, Shower Stall Ceiling, Plaster Skim Coat | None Detected | 0% | 100% |
| B - 31b | 1663500 | Hastings Women's Core Bathroom 476, Shower Stall Ceiling, Plaster Base Coat | None Detected | 0% | 100% |
| B - 32 | 1663501 | Hastings Women's Core Bathroom 476, Ceiling Texture | None Detected | 0% | 100% |
| B - 33a | 1663502 | Hastings All Gender Wing Bathroom 480, Ceiling, Plaster Skim Coat | None Detected | 0% | 100% |
| B - 33b | 1663503 | Hastings All Gender Wing Bathroom 480, Ceiling, Plaster Base Coat | None Detected | 0% | 100% |
| B - 34 | 1663504 | Upton Men's Core Bathroom 495, Shower Soffit, Plaster | None Detected | 0% | 100% |
| B - 35a | 1663505 | Upton Women's Wing Bathroom 485, Plaster Skim Coat | None Detected | 0% | 100% |
| B - 35b | 1663506 | Upton Women's Wing Bathroom 485, Plaster Base Coat | None Detected | 0% | 100% |
| B - 36 | 1663507 | Hastings Women's Wing Bathroom 395, Remnant Pipe Insulation Debris found above ceiling | 5% Chrysotile | 35% Mineral Wool | 60% |

Lab: BATA Laboratories (NVLAP-101032)
 Analysis Method: PLM-EPA 600/R-93/116 and/or PLM NOB-EPA 600/R-93/116 w/Gravimetric Prep

Sampled by: M. LeClair, AI-0924
 Approved by: S. Broadhead

PAINT ANALYSIS for TOTAL LEAD

**Upton-Hastings Hall
52 University Way
Gorham, Maine**

Date Sampled: March 16, 2026
Analytical Method: EPA Method SW846 3050B/7000B by AAS

| Sample/Lab# | Sample Location Description | Condition | TOTAL LEAD | |
|--------------------|--|-----------|-----------------|-------------|
| | | | % by weight | ppm / mg/kg |
| L-1 IHB26076004 | Hastings Core Bathroom 277, Off-White Wall Paint | Poor | 0.0094 | 94 |
| L-2 IHB26076005 | Hastings Core Bathroom 277, White Ceiling Paint | Poor | < 0.0063 | < 63 |
| L-3 IHB26076006 | Hastings Core Bathroom 277, Light Blue Ceiling Paint over Shower Stall | Fair | < 0.0063 | < 63 |
| L-4 IHB26076007 | Hastings Wing Bathroom 285, Off-White/Yellow Wall Paint | Fair | < 0.0063 | < 63 |
| L-5 IHB26076008 | Upton Core Bathroom 227, Blue-Green Wall Paint | Poor | 0.011 | 110 |

- = Level Does Not Require Any Action
- = Exceeds Consumer Product Safety Commission Definition of Non-Lead Based Paint by AAS Analysis $\leq 0.009\%$ by Weight
- = Exceeds HUD/EPA Definition of Lead-Based Paint by AAS Analysis: $\geq 0.5\%$ by Weight
- = Meets or Exceeds EPA Hazardous Waste Threshold Value of 100 mg/kg; TCLP test of waste stream may be required.

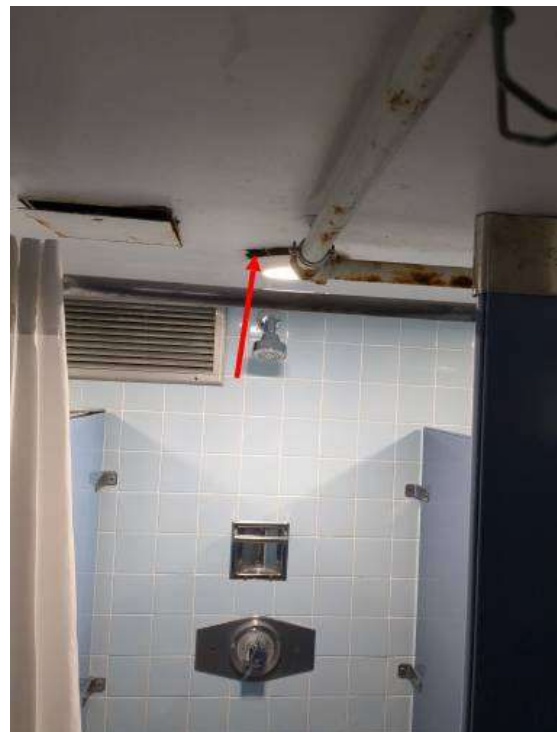
Analytical Laboratory: Batta Laboratories (AIHA LAP-100448)

Sampled By: Tyler DeBardino

PHOTOGRAPH LOG
Upton-Hastings Hall, 52 University Way
Gorham, Maine



Hastings Core Bathroom 277; Shower Stall Ceiling Plaster (Base Coat)



Hastings Core Bathroom 277; Shower Stall Ceiling Plaster (Base Coat)



PHOTOGRAPH LOG
Upton-Hastings Hall, 52 University Way
Gorham, Maine



Hastings Core Bathroom 277; Shower Stall Ceiling Plaster (Base Coat)



Hastings Core Bathroom 277; Shower Stall Ceiling Plaster (Skim Coat)

PHOTOGRAPH LOG
Upton-Hastings Hall, 52 University Way
Gorham, Maine



Hastings Core Bathroom 277; Shower Stall Ceiling Plaster (Skim Coat)



Hastings Core Bathroom 277; Shower Stall Ceiling Plaster (Skim Coat)



PHOTOGRAPH LOG
Upton-Hastings Hall, 52 University Way
Gorham, Maine



Hastings Core Bathroom 277; Ceiling Texture abutting Soffit

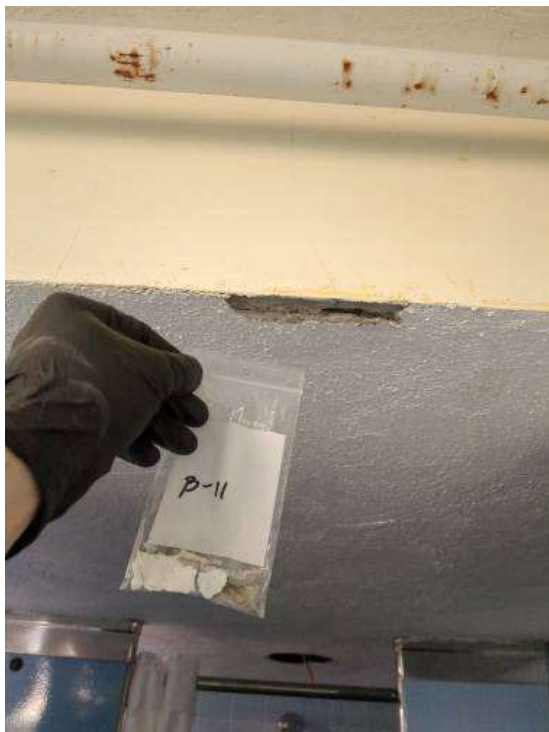


Hastings Core Bathroom 277; Ceiling Texture abutting Soffit

PHOTOGRAPH LOG
Upton-Hastings Hall, 52 University Way
Gorham, Maine



Hastings Wing Bathroom 285; Shower Stall Plaster Ceiling



Hastings Wing Bathroom 285; Shower Stall Plaster Ceiling



PHOTOGRAPH LOG
Upton-Hastings Hall, 52 University Way
Gorham, Maine



Hastings Wing Bathroom 285; Shower Stall Plaster Ceiling



Hastings Wing Bathroom 285; Shower Stall Textured Plaster



PHOTOGRAPH LOG
Upton-Hastings Hall, 52 University Way
Gorham, Maine



Hastings Wing Bathroom 285; Shower Stall Textured Plaster



Hastings Wing Bathroom 227; Shower Stall Ceiling Plaster

PHOTOGRAPH LOG
Upton-Hastings Hall, 52 University Way
Gorham, Maine



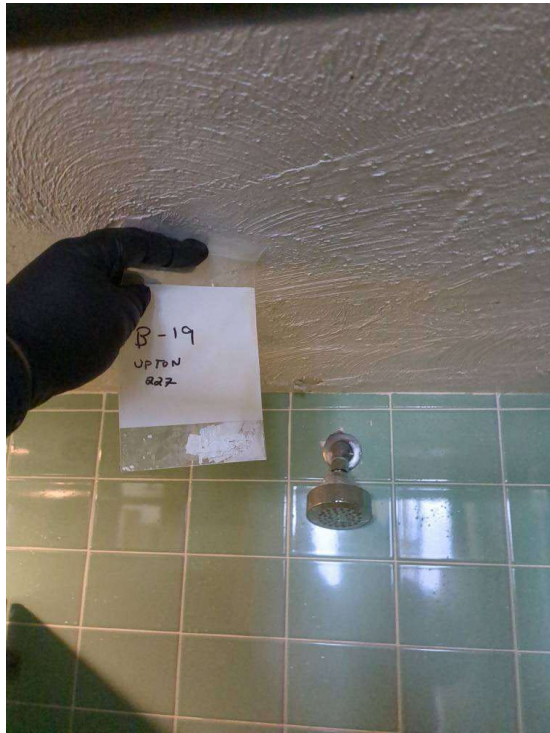
Hastings Wing Bathroom 227; Face of Soffit, Plaster



Hastings Wing Bathroom 227; Shower Stall Ceiling Plaster



PHOTOGRAPH LOG
Upton-Hastings Hall, 52 University Way
Gorham, Maine



Upton Hall Core Bathroom 227; Shower Stall Ceiling Texture



Upton Hall Core Bathroom 227; Shower Stall Ceiling Texture



Upton Hall Core Bathroom 231; Shower Stall Ceiling Texture

PHOTOGRAPH LOG
Upton-Hastings Hall, 52 University Way
Gorham, Maine



Upton Hall, Men's Wing Bathroom 231; Face of Soffit Plaster

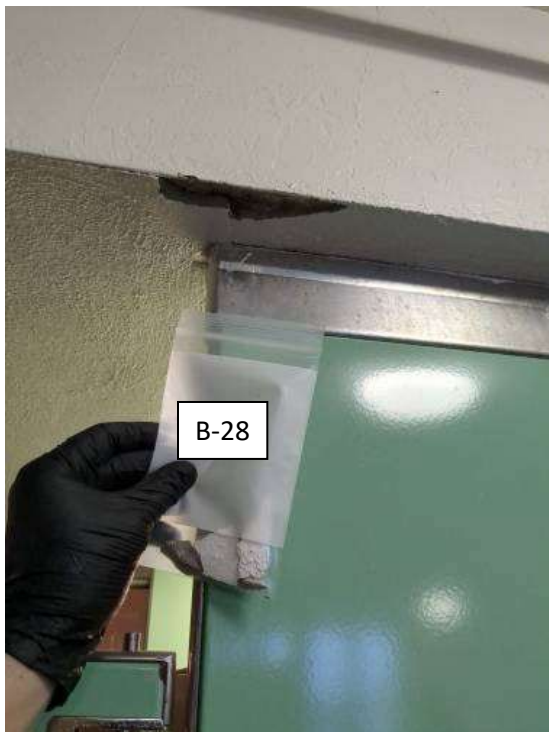


Hastings Men's Core Bathroom 377; Shower Ceiling Plaster

PHOTOGRAPH LOG
Upton-Hastings Hall, 52 University Way
Gorham, Maine



Hastings Women's Wing Bathroom 395; Shower Ceiling Plaster



Upton Hall All Gender Core Bathroom 327;
Shower Ceiling (Soffit) Plaster



Upton Hall Wing Bathroom 331; Shower Ceiling
Plaster

PHOTOGRAPH LOG
Upton-Hastings Hall, 52 University Way
Gorham, Maine



Upton Hall Wing Bathroom 331; Shower Ceiling Plaster



Hastings Women's Core Bathroom 476; Shower Stall Ceiling Plaster

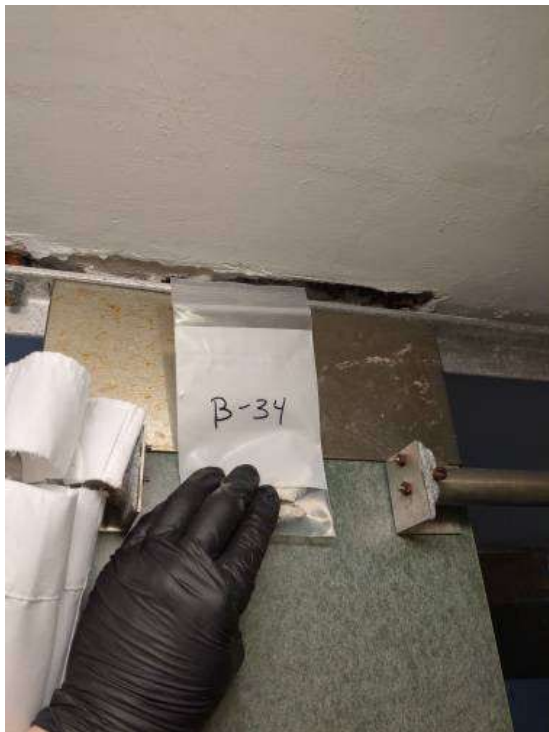
PHOTOGRAPH LOG
Upton-Hastings Hall, 52 University Way
Gorham, Maine



Hastings Women's Core Bathroom 476; Ceiling Texture



Hastings All Gender Wing Bathroom 480; Shower Ceiling Plaster

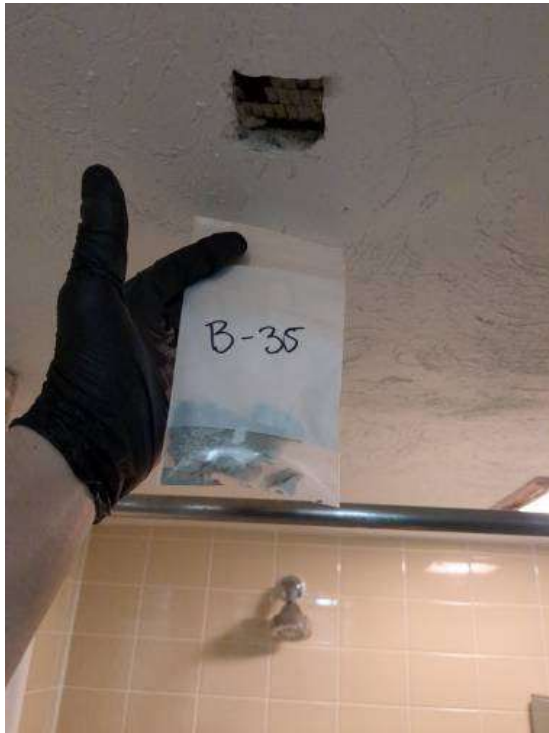


Upton Hall Men's Core Bathroom 495; Shower Soffit Plaster





PHOTOGRAPH LOG
Upton-Hastings Hall, 52 University Way
Gorham, Maine



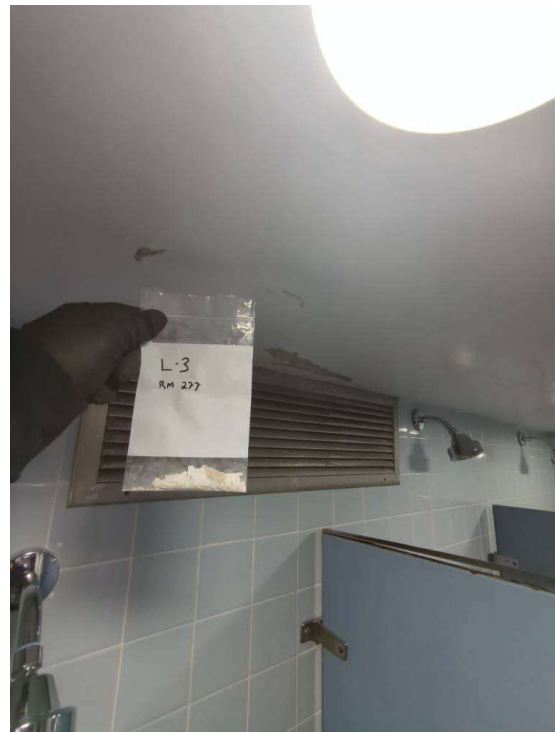
Upton Hall Women's Wing Bathroom 485, Shower Ceiling Plaster



Hastings Core Bathroom 277; Off-White Wall Paint



Hastings Core Bathroom 277; White Ceiling Paint



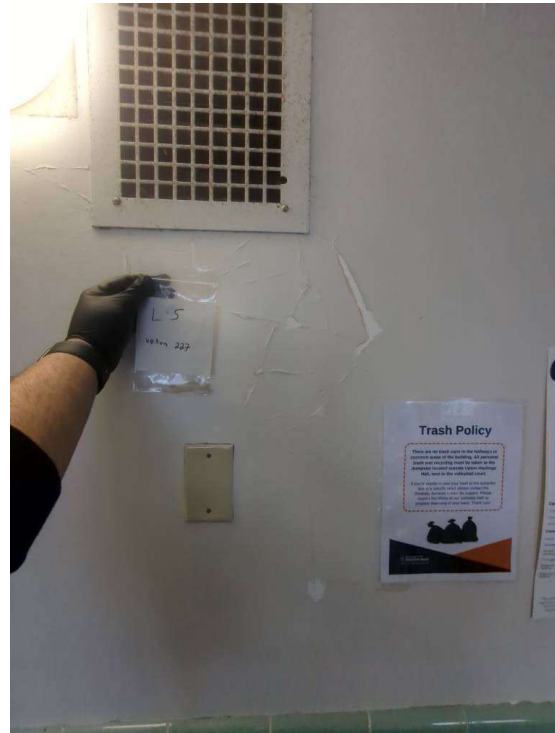
Hastings Core Bathroom 277; Light Blue Ceiling Paint



PHOTOGRAPH LOG
Upton-Hastings Hall, 52 University Way
Gorham, Maine



Hastings Wing Bathroom 285; Off-White/Yellow
Soffit Paint



Upton Core Bathroom 227; Blue/Green Wall Paint



PHOTOGRAPH LOG
Upton-Hastings Hall, 52 University Way
Gorham, Maine



View of plumbing inside Shower Soffits – No pipe insulation observed



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EPA Lab ID #DE004



NVLAP
Lab Code: 101032-D

Dept. Code: PLM

Rev. #: 1
Batch#: N/A
COC#: N/A

CERTIFICATE OF PLM ANALYSIS

Page 1 of 10

Test Method: EPA/600/R-93/116 in conjunction with Batta SOP

Report Date: 03/30/26

Sampling Data

Description of Revision: Client samples B10/11/12a & 13-15 reclassified by client and analyzed.

Date Sampled: 03/16/26

BLI Project #:

R112419

Sampled By: CLIENT

Project Name:

NORTHEAST TEST CONSULTANTS-26076042 - 19867-2026

Date Analyzed: 03/30/26

| Sample ID | | Client-supplied Data | | | Analytical Data | | | Reported Results | |
|-------------|----------------|----------------------|-------------------|----------|-----------------|------------|----------------------------|------------------------|--|
| Lab Sample# | Client Sample# | Sample Description | Material Type | Friable? | Texture/ Gross | Color | Non-asbestiform Components | Asbestiform Components | |
| 1663460 | B-1 | n/a | Plaster Base Coat | n/a | Cementitious | Gray White | 100% Non-fibrous Material | No Asbestos Found | |
| | | | | | Homogeneous | | | | |
| 1663461 | B-2 | n/a | Plaster Base Coat | n/a | Cementitious | Gray White | 100% Non-fibrous Material | No Asbestos Found | |
| | | | | | Homogeneous | | | | |
| 1663462 | B-3 | n/a | Plaster Base Coat | n/a | Cementitious | Gray White | 100% Non-fibrous Material | No Asbestos Found | |
| | | | | | Homogeneous | | | | |
| 1663463 | B-4 | n/a | Top Skim Coat | n/a | Granular | White | 100% Non-fibrous Material | No Asbestos Found | |
| | | | | | Homogeneous | | | | |
| 1663464 | B-5 | n/a | Top Skim Coat | n/a | Granular | White | 100% Non-fibrous Material | No Asbestos Found | |
| | | | | | Homogeneous | | | | |

Note 1 Due to limitations of the EPA PLM method, floor tiles may yield false negative (<1%) results by this method. As such, the EPA recommends further analysis by electron microscopy. Batta recommends the NY 198.4 over the Chatfield method.

Note 2 Unless otherwise specified, Tr=Trace and correlates to <0.25% (based on a 400-point EPA point count).

Note 3 Materials containing vermiculite are not good candidates for analysis using standard EPA 600 PLM protocol. Results may be low-biased due to inherent limitations caused by the material. The EPA recommends that vermiculite attic insulation (VAI) be prepped and analyzed using EPA 600/R-04/004, known as "The Cincinnati Method".

ANALYST: MEC

REVIEWED BY: APL

QA/QC Officer/Signatory

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*The test data pertain only to the items tested. No assumptions or conclusions should be made to materials or samples not analyzed. Furthermore, Batta Laboratories, LLC assumes no responsibility for the accuracy of results influenced by the use of improper collection techniques or equipment.

*Organically-bound, nonfriable material may interfere with the accurate and reproducible quantification of asbestos. In these cases, the EPA recommends further analysis by a matrix-reduction method. Batta recommends the NY ELAP Item 198.6/198.4 over the Chatfield method. When point count techniques are utilized on organically-bound, nonfriable materials without the EPA-recommended matrix reduction steps, Batta Laboratories assumes no responsibility regarding the accuracy or precision associated with these results. In these cases, Batta employs a modified version of the EPA point count method.

*WRTA refers to a group of fibrous Amphiboles typically associated with 'Libby Amphibole'. Within this classification are: winchite, richterite, tremolite, and actinolite.

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EPA Lab ID #DE004



NVLAP
Lab Code: 101032-D

Dept. Code: PLM

Rev. #: 1
Batch#: N/A
COC#: N/A

CERTIFICATE OF PLM ANALYSIS

Page 2 of 10

Test Method: EPA/600/R-93/116 in conjunction with Batta SOP

Report Date: 03/30/26

Sampling Data
Description of Revision: Client samples B10/11/12a & 13-15 reclassified by client and analyzed.
BLI Project #: R112419
Project Name: NORTHEAST TEST CONSULTANTS-26076042 - 19867-2026

Date Sampled: 03/16/26
Sampled By: CLIENT
Date Analyzed: 03/30/26

| Sample ID | | Client-supplied Data | | | Analytical Data | | | Reported Results | |
|-------------|----------------|----------------------|-----------------|----------|------------------|-------|---|--------------------------------------|--|
| Lab Sample# | Client Sample# | Sample Description | Material Type | Friable? | Texture/ Gross | Color | Non-asbestiform Components | Asbestiform Components | |
| 1663465 | B-6 | n/a | Top Skim Coat | n/a | Granular | White | 100% Non-fibrous Material | No Asbestos Found | |
| | | | | | Homogeneous | | | | |
| 1663466 | B-7 | n/a | Ceiling Texture | n/a | Granular Fibrous | White | <1% Fiber Glass 98% Non-fibrous Material | 2% Chrysotile Total Asbestos = 2% | |
| | | | | | Homogeneous | | | | |
| 1663467 | B-8 | n/a | Ceiling Texture | n/a | Granular Fibrous | White | <1% Fiber Glass 98% Non-fibrous Material | 2% Chrysotile Total Asbestos = 2% | |
| | | | | | Homogeneous | | | | |
| 1663468 | B-9 | n/a | Ceiling Texture | n/a | Granular Fibrous | White | <1% Fiber Glass 97% Non-fibrous Material | 3% Chrysotile Total Asbestos = 3% | |
| | | | | | Homogeneous | | | | |
| 1663469 | B-10A | n/a | Skim/Top Coat | n/a | Granular | White | 100% Non-fibrous Material | No Asbestos Found | |
| | | | | | Homogeneous | | | | |

Note 1 Due to limitations of the EPA PLM method, floor tiles may yield false negative (<1%) results by this method. As such, the EPA recommends further analysis by electron microscopy. Batta recommends the NY 198.4 over the Chatfield method.

Note 2 Unless otherwise specified, Tr=Trace and correlates to <0.25% (based on a 400-point EPA point count).

Note 3 Materials containing vermiculite are not good candidates for analysis using standard EPA 600 PLM protocol. Results may be low-biased due to inherent limitations caused by the material. The EPA recommends that vermiculite attic insulation (VAI) be prepped and analyzed using EPA 600/R-04/004, known as "The Cincinnati Method".

ANALYST: MEC

REVIEWED BY: *APL*

QA/QC Officer/Signatory

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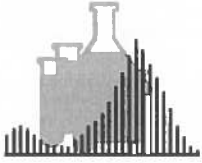
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EPA Lab ID #DE004

NVLAP
Lab Code: 101032-D

Dept. Code: PLM

Rev. #: 1
Batch#: N/A
COC#: N/A

CERTIFICATE OF PLM ANALYSIS

Page 3 of 10

Test Method: EPA/600/R-93/116 in conjunction with Batta SOP

Report Date: 03/30/26

Sampling Data

Description of Revision: Client samples B10/11/12a & 13-15 reclassified by client and analyzed.

Date Sampled: 03/16/26

BLI Project #:

R112419

Sampled By: CLIENT

Project Name:

NORTHEAST TEST CONSULTANTS-26076042 - 19867-2026

Date Analyzed: 03/30/26

| Sample ID | | Client-supplied Data | | Analytical Data | | | Reported Results | |
|-------------|----------------|----------------------|---------------|-----------------|-------------------------------------|----------------------------|------------------------|--|
| Lab Sample# | Client Sample# | Sample Description | Material Type | Friable? | Texture/ Gross Color | Non-asbestiform Components | Asbestiform Components | |
| 1663470 | B-10B | n/a | Plaster Base | n/a | Cementitious Homogeneous Gray | 100% Non-fibrous Material | No Asbestos Found | |
| 1663471 | B-11A | n/a | Paint | n/a | Soft Homogeneous White | 100% Non-fibrous Material | No Asbestos Found | |
| 1663472 | B-11B | n/a | Plaster Base | n/a | Cementitious Homogeneous Gray | 100% Non-fibrous Material | No Asbestos Found | |
| 1663473 | B-12A | n/a | Paint | n/a | Soft Homogeneous White | 100% Non-fibrous Material | No Asbestos Found | |
| 1663474 | B-12B | n/a | Plaster Base | n/a | Cementitious Homogeneous Gray | 100% Non-fibrous Material | No Asbestos Found | |

Note 1 Due to limitations of the EPA PLM method, floor tiles may yield false negative (<1%) results by this method. As such, the EPA recommends further analysis by electron microscopy. Batta recommends the NY 198.4 over the Chatfield method.

Note 2 Unless otherwise specified, Tr=Trace and correlates to <0.25% (based on a 400-point EPA point count).

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ANALYST: MEC

REVIEWED BY: APL

QA/QC Officer/Signatory

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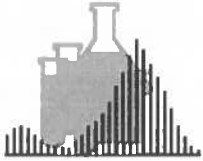
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NY ELAP LAB# 11993 for PCM, PLM, TEM & Lead



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Newark, DE19713-5817
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Web: <http://www.battaenv.com> E-mail: battaenv@battaenv.com



EPA Lab ID #DE004

NVLAP
Lab Code: 101032-D

Dept. Code: PLM

Rev. #: 1
Batch#: N/A
COC#: N/A

CERTIFICATE OF PLM ANALYSIS

Page 4 of 10

Test Method: EPA/600/R-93/116 in conjunction with Batta SOP

Report Date: 03/30/26

Sampling Data

Description of Revision: Client samples B10/11/12a & 13-15 reclassified by client and analyzed.

Date Sampled: 03/16/26

BLI Project #: R112419

Sampled By: CLIENT

Project Name: NORTHEAST TEST CONSULTANTS-26076042 - 19867-2026

Date Analyzed: 03/30/26

| Sample ID | | Client-supplied Data | | Analytical Data | | | Reported Results | |
|-------------|----------------|----------------------|---------------|-----------------|---------------------------------------|----------------------------|------------------------|--|
| Lab Sample# | Client Sample# | Sample Description | Material Type | Friable? | Texture/ Gross Color | Non-asbestiform Components | Asbestiform Components | |
| 1663475 | B-13 | n/a | Plaster | n/a | Cementitious Gray Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |
| 1663476 | B-14 | n/a | Plaster | n/a | Cementitious Gray Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |
| 1663477 | B-15 | n/a | Plaster | n/a | Cementitious Gray Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |
| 1663478 | B-16A | n/a | Ceiling Top | n/a | Granular White Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |
| 1663479 | B-16B | n/a | Plaster Base | n/a | Granular Gray White Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |

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Note 2 Unless otherwise specified, Tr=Trace and correlates to <0.25% (based on a 400-point EPA point count).

Note 3 Materials containing vermiculite are not good candidates for analysis using standard EPA 600 PLM protocol. Results may be low-biased due to inherent limitations caused by the material. The EPA recommends that vermiculite attic insulation (VAI) be prepped and analyzed using EPA 600/R-04/004, known as "The Cincinnati Method".

ANALYST: MEC

REVIEWED BY: *APL*

QA/QC Officer/Signatory

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CERTIFICATE OF PLM ANALYSIS

Page 5 of 10

Test Method: EPA/600/R-93/116 in conjunction with Batta SOP

Report Date: 03/30/26

Sampling Data

Description of Revision: Client samples B10/11/12a & 13-15 reclassified by client and analyzed.

Date Sampled: 03/16/26

BLI Project #:

R112419

Sampled By: CLIENT

Project Name:

NORTHEAST TEST CONSULTANTS-26076042 - 19867-2026

Date Analyzed: 03/30/26

| Sample ID | | Client-supplied Data | | | Analytical Data | | | Reported Results | |
|-------------|----------------|----------------------|-----------------|----------|----------------------|-------------|----------------------------|-------------------------------|--|
| Lab Sample# | Client Sample# | Sample Description | Material Type | Friable? | Texture/ Gross Color | | Non-asbestiform Components | Asbestiform Components | |
| 1663480 | B-17A | n/a | Ceiling Top | n/a | Granular White | Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |
| 1663481 | B-17B | n/a | Plaster Base | n/a | Cementitious Gray | Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |
| 1663482 | B-18A | ** | Ceiling Top | n/a | | | | Layer Not Present, only Paint | |
| 1663483 | B-18B | n/a | Plaster Base | n/a | Granular Gray Tan | Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |
| 1663484 | B-19 | n/a | Ceiling Texture | n/a | Granular White | Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |

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ANALYST: MEC

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EPA Lab ID #DE004

NVLAP
Lab Code: 101032-D

Dept. Code: PLM

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CERTIFICATE OF PLM ANALYSIS

Page 6 of 10

Test Method: EPA/600/R-93/116 in conjunction with Batta SOP

Report Date: 03/30/26

Sampling Data

Description of Revision: Client samples B10/11/12a & 13-15 reclassified by client and analyzed.

Date Sampled: 03/16/26

BLI Project #: R112419

Sampled By: CLIENT

Project Name: NORTHEAST TEST CONSULTANTS-26076042 - 19867-2026

Date Analyzed: 03/30/26

| Sample ID | | Client-supplied Data | | | Analytical Data | | | Reported Results | |
|-------------|----------------|----------------------|-----------------|----------|-------------------------|---------------|----------------------------|------------------------|--|
| Lab Sample# | Client Sample# | Sample Description | Material Type | Friable? | Texture/ Gross Color | | Non-asbestiform Components | Asbestiform Components | |
| 1663485 | B-20 | n/a | Ceiling Texture | n/a | Granular White | Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |
| 1663486 | B-21 | n/a | Ceiling Texture | n/a | Granular White | Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |
| 1663487 | B-22 | n/a | Ceiling Texture | n/a | Cementitious White Gray | Heterogeneous | 100% Non-fibrous Material | No Asbestos Found | |
| 1663488 | B-23 | n/a | Plaster Skim | n/a | Granular White | Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |
| 1664302 | B-23 (Layer 1) | n/a | Plaster Base | n/a | Granular Gray White | Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |

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EPA Lab ID #DE004



NVLAP
Lab Code: 101032-D

Dept. Code: PLM

Rev. #: 1
Batch#: N/A
COC#: N/A

CERTIFICATE OF PLM ANALYSIS

Page 7 of 10

Test Method: EPA/600/R-93/116 in conjunction with Batta SOP

Report Date: 03/30/26

Sampling Data

Description of Revision: Client samples B10/11/12a & 13-15 reclassified by client and analyzed.

Date Sampled: 03/16/26

BLI Project #: R112419

Sampled By: CLIENT

Project Name: NORTHEAST TEST CONSULTANTS-26076042 - 19867-2026

Date Analyzed: 03/30/26

| Sample ID | | Client-supplied Data | | | Analytical Data | | | Reported Results | |
|-------------|----------------|----------------------|---------------|----------|-----------------------------|-------|----------------------------|------------------------|--|
| Lab Sample# | Client Sample# | Sample Description | Material Type | Friable? | Texture/ Gross Color | | Non-asbestiform Components | Asbestiform Components | |
| 1663489 | B-24 | n/a | Plaster Skim | n/a | Granular Homogeneous | White | 100% Non-fibrous Material | No Asbestos Found | |
| 1663490 | B-25 | n/a | Plaster Base | n/a | Cementitious Homogeneous | Gray | 100% Non-fibrous Material | No Asbestos Found | |
| 1663491 | B-26A | n/a | Skim Coat Top | n/a | Granular Homogeneous | White | 100% Non-fibrous Material | No Asbestos Found | |
| 1663492 | B-26B | n/a | Plaster Base | n/a | Cementitious Homogeneous | White | 100% Non-fibrous Material | No Asbestos Found | |
| 1663493 | B-27A | n/a | Skim Coat Top | n/a | Granular Homogeneous | White | 100% Non-fibrous Material | No Asbestos Found | |

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EPA Lab ID #DE004



Dept. Code: PLM

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CERTIFICATE OF PLM ANALYSIS

Page 8 of 10

Test Method: EPA/600/R-93/116 in conjunction with Batta SOP

Report Date: 03/30/26

Sampling Data

Description of Revision: Client samples B10/11/12a & 13-15 reclassified by client and analyzed.

Date Sampled: 03/16/26

BLI Project #:

R112419

Sampled By: CLIENT

Project Name:

NORTHEAST TEST CONSULTANTS-26076042 - 19867-2026

Date Analyzed: 03/30/26

| Sample ID | | Client-supplied Data | | Analytical Data | | | Reported Results | |
|-------------|----------------|----------------------|-----------------|-----------------|--|----------------------------|------------------------|--|
| Lab Sample# | Client Sample# | Sample Description | Material Type | Friable? | Texture/ Gross Color | Non-asbestiform Components | Asbestiform Components | |
| 1663494 | B-27B | n/a | Plaster Base | n/a | Cementitious Granular Homogeneous Gray | 100% Non-fibrous Material | No Asbestos Found | |
| 1663495 | B-28 | n/a | Plaster | n/a | Cementitious Homogeneous Gray | 100% Non-fibrous Material | No Asbestos Found | |
| 1663496 | B-29 | n/a | Ceiling Texture | n/a | Granular Homogeneous White | 100% Non-fibrous Material | No Asbestos Found | |
| 1663497 | B-30A | ** | Skim Coat Top | n/a | | | Layer Not Present | |
| 1663498 | B-30B | n/a | Plaster Base | n/a | Granular Homogeneous Gray White | 100% Non-fibrous Material | No Asbestos Found | |

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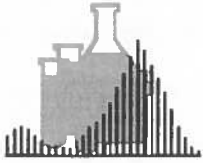
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Page 9 of 10

Test Method: EPA/600/R-93/116 in conjunction with Batta SOP

Report Date: 03/30/26

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Description of Revision: Client samples B10/11/12a & 13-15 reclassified by client and analyzed.

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Sampled By: CLIENT

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Date Analyzed: 03/30/26

| Sample ID | | Client-supplied Data | | | Analytical Data | | | Reported Results | |
|-------------|----------------|----------------------|-----------------|-------------------|-------------------|-------------|----------------------------|------------------------|--|
| Lab Sample# | Client Sample# | Sample Description | Material Type | Friable? Texture/ | Gross Color | | Non-asbestiform Components | Asbestiform Components | |
| 1663499 | B-31A | n/a | Skim Coat Top | n/a | Granular White | Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |
| 1663500 | B-31B | n/a | Plaster Base | n/a | Cementitious Gray | Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |
| 1663501 | B-32 | n/a | Ceiling Texture | n/a | Granular White | Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |
| 1663502 | B-33A | n/a | Skim Coat Top | n/a | Granular White | Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |
| 1663503 | B-33B | n/a | Plaster Base | n/a | Cementitious Gray | Homogeneous | 100% Non-fibrous Material | No Asbestos Found | |

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NORTHEAST TEST CONSULTANTS-26076042 - 19867-2026

Date Analyzed: 03/30/26

| Sample ID | | Client-supplied Data | | | Analytical Data | | | Reported Results | |
|-------------|----------------|----------------------|-----------------|-------------------|---------------------------------|-------|--|--------------------------------------|--|
| Lab Sample# | Client Sample# | Sample Description | Material Type | Friable? Texture/ | Gross Color | | Non-asbestiform Components | Asbestiform Components | |
| 1663504 | B-34 | n/a | Plaster Ceiling | n/a | Granular Homogeneous | White | 100% Non-fibrous Material | No Asbestos Found | |
| 1663505 | B-35A | n/a | Skim Coat Top | n/a | Granular Homogeneous | White | 100% Non-fibrous Material | No Asbestos Found | |
| 1663506 | B-35B | n/a | Plaster Base | n/a | Granular Homogeneous | Gray | 100% Non-fibrous Material | No Asbestos Found | |
| 1663507 | B-36 | n/a | Pipe Insulation | n/a | Granular Fibrous Homogeneous | Gray | 35% Mineral Wool 60% Non-fibrous Material | 5% Chrysotile Total Asbestos = 5% | |

Note 1 Due to limitations of the EPA PLM method, floor tiles may yield false negative (<1%) results by this method. As such, the EPA recommends further analysis by electron microscopy. Batta recommends the NY 198.4 over the Chatfield method.

Note 2 Unless otherwise specified, Tr=Trace and correlates to <0.25% (based on a 400-point EPA point count).

Note 3 Materials containing vermiculite are not good candidates for analysis using standard EPA 600 PLM protocol. Results may be low-biased due to inherent limitations caused by the material. The EPA recommends that vermiculite attic insulation (VAI) be prepped and analyzed using EPA 600/R-04/004, known as "The Cincinnati Method".

ANALYST: MEC

REVIEWED BY: *APL*
QA/QC Officer/Signatory

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*This report does not constitute endorsement by NVLAP and/or any other US government agencies. PLM analyses do not fall under the purview of AIHA LAP.

*The test data pertain only to the items tested. No assumptions or conclusions should be made to materials or samples not analyzed. Furthermore, Batta Laboratories, LLC assumes no responsibility for the accuracy of results influenced by the use of improper collection techniques or equipment.

*Organically-bound, nonfriable material may interfere with the accurate and reproducible quantification of asbestos. In these cases, the EPA recommends further analysis by a matrix-reduction method. Batta recommends the NY ELAP Item 198.6/198.4 over the Chatfield method. When point count techniques are utilized on organically-bound, nonfriable materials without the EPA-recommended matrix reduction steps, Batta Laboratories assumes no responsibility regarding the accuracy or precision associated with these results. In these cases, Batta employs a modified version of the EPA point count method.

*WRTA refers to a group of fibrous Amphiboles typically associated with 'l' ihhv Amphibole. Within this classification are: winchite, richterite, tremolite, and actinolite.

RP26032402

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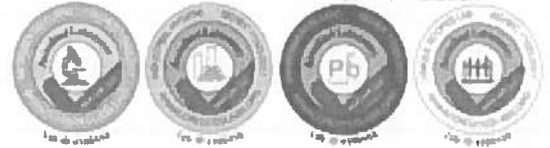


NY ELAP# 11993
PCM, PLM, TEM & LEAD

batta
LABORATORIES

BATTA LABORATORIES, LLC
Delaware Industrial Park, 6 Garfield Way
Newark, DE 19713-5817
Tel. (302)737-3376 Fax (302)-737-5764
Newark, DE - Columbia, MD - Philadelphia, PA

Web: <http://www.battaenv.com>
E-mail: battaenv@battaenv.com



NVLAP
Lab Code: 101032-0

REPORT OF ANALYSIS

Report#: RP26032402

Project Number: 260320006

Project Name: Northeast Test Consultants

Project Location: 19867-2026 Maine

Date Received: 03/19/2026

Date Sampled: 03/16/2026

Date Analyzed: 03/23/2026

Sampled By: Client

Analyte Requested: Lead

Date Report Issued: 03/24/2026

| Lab Sample # | Field Sample # | Sample Description | Parameters | Results (mg/kg) | Result(% Weight) | Method | Reporting Limit (mg/kg) | %Weight |
|-------------------|----------------|----------------------------|------------|-----------------|------------------|------------------------------|-------------------------|---------|
| 260320006.0 01 | 01 | L-1 Off-White Paint | Lead | 94.00 | 0.0094 | Test Method: EPA 3050B/7000B | 63.00 | 0.0063 |
| 260320006.0 02 | 02 | L-2 White Paint | Lead | <63.00 | <0.0063 | Test Method: EPA 3050B/7000B | 63.00 | 0.0063 |
| 260320006.0 03 | 03 | L-3 Light Blue Paint | Lead | <63.00 | <0.0063 | Test Method: EPA 3050B/7000B | 63.00 | 0.0063 |
| 260320006.0 04 | 04 | L-4 Off-White/Yellow Paint | Lead | <63.00 | <0.0063 | Test Method: EPA 3050B/7000B | 63.00 | 0.0063 |
| 260320006.0 05 | 05 | L-5 Blue/Green Paint | Lead | 110.00 | 0.011 | Test Method: EPA 3050B/7000B | 63.00 | 0.0063 |

* Material submitted was below the minimum amount required.

Note: 1. EPA guidelines require identification of paint samples as "lead based paint" when concentrations are found to be greater than 0.5% by weight; 2. Quality control results in this report are acceptable; 3. Results relate only to the items tested (on a dry weight basis); Batta Laboratories, LLC is not responsible for sample collection, nor interpretations made by others; 4. This report does not constitute endorsement by AIHA-LAP, LLC., NVLAP and/or any other U.S. governmental agencies; 5. Lab results/calculations are reported in 2 significant figures. Clients data/measurements are reported as they were submitted. Samples received in acceptable condition unless otherwise noted. 6. The designation of "CL" as the Analyst on this report denotes that there are samples listed above which were submitted to an accredited partner lab for analysis. 8. This report must not be reproduced without the written approval of BATTA Laboratories. 9. Uncertainty measurement values are available at client request are reported as they were submitted.

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Analyst: Savanna Deppish

QA/QC BY: A. Lewis
N.C. Batta/A.Lewis (QA/QC Officer)

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. The Work of this Section Includes:

1. Demolition and removal of selected portions of interior of building or structure.

B. Related Requirements:

1. Section 011000 "Summary" for restrictions on use of the premises, Owner-occupancy requirements, and phasing requirements.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner as indicated.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage; prepare for reuse; and reinstall where indicated.
- D. Existing to Remain: Existing items of construction that are not to be removed.

1.3 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.4 COORDINATION

- A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

1.5 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at Project site.

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 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

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- by selective demolition operations.
- 5. Review areas where existing construction is to remain and requires protection.
- 6. Review and finalize protection requirements.
- 7. Review procedures for noise control and dust control.
- 8. Review storage, protection, and accounting for items to be removed for salvage or reinstallation.

1.6 INFORMATIONAL SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for dust control and, for noise control. Indicate proposed locations and construction of barriers.
- C. 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. Temporary 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. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.

1.7 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding 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. Hazardous Materials:
 - 1. Hazardous materials are present in buildings and structures to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
 - a. Hazardous material remediation is specified in Section 022600 "Asbestos Abatement".
- E. On-site sale of removed items or materials is not permitted.

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PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSP A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Verify that hazardous materials have been remediated before proceeding with building demolition operations.
- D. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.
 - 1. Photograph or video existing conditions of adjoining construction including finish surfaces, that might be misconstrued as damage caused by selective demolition operations or removal of items for salvage or reinstallation.

3.2 PREPARATION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - 2. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - 3. Cover and protect furniture, furnishings, and equipment that have not been removed.
- B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition.

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3.3 UTILITY SERVICES AND BUILDING SYSTEMS

- A. Existing Services/Systems to Remain: Maintain utilities and building systems and equipment to remain and protect against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utilities and building systems serving areas to be selectively demolished.
 - 1. Owner will arrange to shut off indicated utilities when requested by Contractor.
 - 2. If disconnection of utilities and building systems will affect adjacent occupied parts of the building, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to those parts of the building.
 - 3. Demolish and remove existing building systems, equipment, and components indicated on Drawings to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment and components.
 - 4. Abandon existing building systems, equipment, and components indicated on Drawings to be abandoned in place.
 - a. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping.
 - 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 3. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - 4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

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1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed trafficways if required by authorities having jurisdiction.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
 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.
- B. Burning: Do not burn demolished materials.

3.6 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

SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Nonstructural steel framing.

1.2 ACTION SUBMITTALS

A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.

B. Product Data: For each type of product.

C. Shop Drawings:

1. Include layout, spacings, sizes, thicknesses, and types of nonstructural steel framing and fastening and anchorage details.
2. Indicate reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, and attachments to adjoining work.

1.3 INFORMATIONAL SUBMITTALS

A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.

B. Product Certificates: For code-compliance certification of studs and track.

1.4 QUALITY ASSURANCE

A. Code-Compliance Certification of Studs and Track: Provide documentation that framing members are certified in accordance with product-certification program of the Steel Framing Industry Association .

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

B. Protect materials from corrosion, deformation, and other damage during delivery, storage, and handling in accordance with AISI S202.

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PART 2 - PRODUCTS

2.1 NONSTRUCTURAL STEEL FRAMING

- A. Framing Members, General: Comply with requirements in AISI S220 for conditions indicated on Drawings.
1. Protective Coating: ASTM A653/A653M, G40 hot-dip galvanized or coating with demonstrated equivalent corrosion resistance. Galvannealed products are unacceptable.
 - a. Equivalent Corrosion-Resistant Coating: Evaluation report acceptable to authorities having jurisdiction demonstrates corrosion resistance equivalent to specified protective coating.
- B. Studs and Track: Conventional members, roll-formed into standard shapes without surface deformations to stiffen framing members.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following :
 - a. CEMCO; California Expanded Metal Products Co.
 - b. ClarkDietrich
 - c. CRACO Mfg., Inc.
 - d. Jaimes Industries, Inc.
 - e. Marino\WARE
 - f. MBA Building Supplies
 - g. MBA Metal Framing
 - h. MRI Steel Framing, LLC
 - i. SCAFCO Steel Stud Company; Stone Group of Companies
 - j. Steel Construction Systems; Stone Group of Companies
 - k. Steel Network, Inc. (The)
 - l. TELLING Industries
 - m. UMS Metal Building Systems USA LLC
 - n. US Frame Factory
 2. Minimum Base-Steel Thickness: 0.0179 inch.
 3. Minimum Yield Strength: 33 ksi.
 4. Depth: As indicated on Drawings .

2.2 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards.
1. Fasteners for Steel Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

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PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, substrates, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF NONSTRUCTURAL STEEL FRAMING, GENERAL

- A. Installation Standard: ASTM C754.
 - 1. Gypsum Board Assemblies: Also comply with requirements in ASTM C840 that apply to framing installation.
- B. Install framing and accessories plumb, square, and true to line, with connections securely fastened.
- C. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- D. Install bracing at terminations in assemblies.

3.3 INSTALLATION OF NONSTRUCTURAL STEEL FRAMING

- A. Install framing system components at spacings indicated on Drawings, but not greater than spacings required by referenced installation standards for assembly types.
- B. Install studs so flanges within framing system point in same direction.
- C. Installation Tolerances for Nonstructural Steel Framing:
 - 1. Framing Members: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.
 - 2. Suspended Assemblies: Install suspension systems that are level to within 1/8 inch in 12 ft. measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

END OF SECTION

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Interior gypsum board.

B. Related Requirements:

1. Section 092216 "Non-Structural Metal Framing" for nonstructural steel framing and suspension systems that support gypsum board panels.

1.2 ACTION SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.

- B. Product Data: For each type of product.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.4 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C840 requirements or manufacturer's written instructions, whichever are more stringent.

- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.

- C. Do not install panels that are wet, moisture damaged, or 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 SOURCE LIMITATIONS

- A. Obtain each type of gypsum board and joint finishing material from single source with resources to provide products of consistent quality in appearance and physical properties.

2.2 GYPSUM BOARD, GENERAL

- A. Size: Provide panel products in maximum lengths and widths available that will minimize joints in each area and that correspond with support system specified or indicated on Drawings.

2.3 INTERIOR GYPSUM BOARD

- A. Mold-Resistant Gypsum Board: ASTM C1396/C1396M; manufactured with moisture- and mold-resistant core and paper surfaces.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following :
 - a. American Gypsum
 - b. CertainTeed; SAINT-GOBAIN
 - c. Georgia-Pacific Gypsum LLC
 - d. Gold Bond Building Products, LLC provided by National Gypsum Company
 - e. PABCO Gypsum
 - f. Panel Rey
 - g. USG Corporation
 2. Core: As indicated on Drawings .
 3. Mold Resistance: ASTM D3273, score of 10 as rated in accordance with ASTM D3274.
 4. Long Edges: Tapered.
- B. Trim for Interior Gypsum Board: ASTM C1047.
1. Material: Galvanized-steel sheet 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. Joint Treatment Materials for Interior Gypsum Board: Comply with ASTM C475/C475M requirements.
1. Joint Tape: Paper.
 2. Joint Compound: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.

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- a. Mold-Resistant Joint Compound: Use mold-resistant formulations with mold-resistant gypsum board products.
- b. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
- c. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.
- d. Fill Coat: For second coat, use drying-type, all-purpose compound.
- e. Finish Coat: For third coat, use drying-type, all-purpose compound.
- f. Skim Coat: For final coat of Level 5 finish, use drying-type, all-purpose compound or high-build interior coating product designed for application by airless sprayer and to be used instead of skim coat to produce Level 5 finish.

2.4 AUXILIARY MATERIALS

- A. Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
- B. Steel Drill Screws: ASTM C1002 unless otherwise specified or indicated on Drawings.
 1. Use screws complying with ASTM C954 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 including support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, or mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION AND FINISHING OF GYPSUM BOARD, GENERAL

- A. Comply with ASTM C840 requirements.
- 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.

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- E. Form expansion (control) joints with space between edges of adjoining gypsum panels.
- F. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch-wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- G. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

3.3 INSTALLATION OF INTERIOR GYPSUM BOARD

- A. 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 on Drawings.
 - 2. Fastening Methods: Apply gypsum panels to supports with steel drill screws.
- B. Trim for Interior Gypsum Board: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim in accordance with manufacturer's written instructions.
 - 1. Cornerbead: Install at outside corners.
 - 2. LC-Bead: Install at exposed panel edges.
- C. Joint Treatment Materials for Interior Gypsum Board: Treat joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare panel surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
 - 1. Prefill open joints and damaged surface areas.
 - 2. Apply joint tape over panel joints, except for trim products specifically indicated as not intended to receive tape.
- D. Finish interior gypsum board panels to comply with levels indicated below and in accordance with ASTM C840:
 - 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated on Drawings.
 - 2. Level 2: Panels that are substrate for tile .
 - 3. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated .
 - a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."
 - 4. Level 5: Where indicated on Drawings .
 - a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

3.4 PROTECTION

- A. Protect adjacent surfaces from joint compound and promptly remove from floors and other non-gypsum board surfaces. Repair surfaces stained, marred, or otherwise damaged during gypsum board installation and finishing.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that have gotten wet, moisture damaged, or 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

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SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Primers.
 - 2. Water-based finish coatings.

1.3 ACTION SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Product Data: For each type of product. Include preparation requirements and application instructions.
- C. Product Schedule: Use same designations indicated on Drawings and in the Interior Painting Schedule to cross-reference paint systems specified in this Section. Include color designations.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.5 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures of less than 5 deg F above the dew point; or to damp or wet surfaces.

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PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Benjamin Moore & Co.
 2. California Paints.
 3. Kelly-Moore Paint Company Inc.
 4. PPG Paints.
 5. Sherwin-Williams Company (The).
 6. Valspar Corporation (The).
- B. Source Limitations: Obtain each paint product from single source from single manufacturer.

2.2 PAINT PRODUCTS, GENERAL

- A. Material Compatibility:
1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- B. Colors: As indicated on Drawings.

2.3 PRIMERS

- A. Interior Latex Primer Sealer: Pigmented, water-based latex sealer; formulated to reduce porosity of substrate for finish coats; for use on new interior plaster, concrete, and gypsum board substrates. Not intended for use on wood or previously painted surfaces.

2.4 WATER-BASED FINISH COATS

- A. Interior, High-Performance Architectural Latex: Water-based, pigmented, low-VOC, emulsion coating formulated to provide a significantly higher level of performance than conventional latex paints in the areas of scrub resistance, burnish resistance, and ease of stain removal.
1. Gloss and Sheen Level: Manufacturer's standard eggshell finish for gypsum board and semigloss for metals.

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PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Gypsum Board: 12 percent.
- C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer.
- E. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- F. Aluminum Substrates: Remove loose surface oxidation.
- G. Cotton or Canvas Insulation Covering Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.

3.3 INSTALLATION

- A. Apply paints according to manufacturer's written instructions.
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 - 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- C. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- D. Painting Fire-Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
 - 1. Paint the following work where exposed in occupied spaces:
 - a. Equipment, including panelboards.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.

3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
 - 1. Do not clean equipment with free-draining water and prevent solvents, thinners, cleaners, and other contaminants from entering into waterways, sanitary and storm drain systems, and ground.
 - 2. Dispose of contaminants in accordance with requirements of authorities having jurisdiction.
 - 3. Allow empty paint cans to dry before disposal.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

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- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Contracting Officer, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 INTERIOR PAINTING SCHEDULE

A. Steel Substrates:

1. High-Performance Architectural Latex System:

- a. Prime Coat: Shop primer specified in Section where substrate is specified.
- b. Intermediate Coat: Matching topcoat.
- c. Topcoat: Topcoat: Interior, high-performance architectural latex, semigloss.

B. Aluminum (Not Anodized or Otherwise Coated) Substrates:

1. Institutional Low-Odor/VOC Latex System:

- a. Prime Coat: Quick-dry primer for aluminum.
- b. Intermediate Coat: Matching topcoat.
- c. Topcoat: Interior, latex, institutional low-odor/VOC, semigloss.

C. Gypsum Board Substrates:

1. Institutional Low-Odor/VOC Latex System:

- a. Prime Coat: Interior latex primer sealer.
- b. Intermediate Coat: Matching topcoat.
- c. Topcoat: Interior, high-performance architectural latex, eggshell.

D. Cotton or Canvas and ASJ Insulation-Covering Substrates: Including pipe and duct coverings.

1. Latex System:

- a. Prime Coat: Interior latex primer sealer.
- b. Intermediate Coat: Matching topcoat.
- c. Topcoat: Interior, latex, institutional low-odor/VOC, eggshell.

END OF SECTION

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SECTION 102116.19 - PLASTIC SHOWER AND DRESSING COMPARTMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid-plastic shower and dressing compartments.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for blocking and overhead support of floor-and-ceiling-anchored compartments.

1.2 COORDINATION

- A. Coordinate requirements for overhead supports, blocking, reinforcing, and other supports concealed within wall to ensure that compartments can be supported and installed as indicated.

1.3 ACTION SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.

B. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

C. Shop Drawings:

1. Include plans, elevations, sections, and attachment details.

- D. Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available finishes for each type of compartment.

1. Include Samples of hardware and accessories involving material and color selection.

1.4 INFORMATIONAL SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.

- B. Material Test Reports: For solid, high-density polyethylene (HDPE) panel, by a qualified testing agency.

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1.5 CLOSEOUT SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Operation and Maintenance Data: For shower and dressing compartments.

1.6 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of fixtures, drains, walls, columns, ceilings, and other construction contiguous with shower and dressing compartments by field measurements, and coordinate before fabrication.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

- A. Obtain shower and dressing compartments from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Recycled Content: 25 percent.

2.3 SOLID-PLASTIC SHOWER AND DRESSING COMPARTMENTS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Scranton's Shower Stalls & Dressing Compartments, or comparable product by one of the following:
 - 1. ASI Accurate Partitions
 - 2. ASI Global Partitions
 - 3. General Partitions Mfg. Corp
 - 4. Knickerbocker Partition Corporation
 - 5. Metpar Corp
- B. Compartment Style: Overhead braced.
- C. Panel Construction: Solid, HDPE panel material, not less than 1 inch thick, seamless, with eased edges and with homogenous color throughout thickness of material.
 - 1. Heat-Sink Strip: Manufacturer's continuous, extruded-aluminum or stainless steel strip fastened to exposed bottom edges of solid-plastic components to hinder malicious combustion.
 - 2. Color: As selected by Architect from manufacturer's full range. Protect exposed surfaces from damage by applying strippable, temporary protective covering before shipment.
- D. Pilaster Construction: Match panels.

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- E. Pilaster Shoes: Manufacturer's standard design; solid plastic.
 - 1. Plastic Color: Match pilaster.
- F. Brackets (Fittings):
 - 1. Shower Compartment Brackets:
 - a. Full-Height (Continuous) Type: Manufacturer's standard design; solid plastic or extruded aluminum.
 - 2. Dressing Compartment Brackets:
 - a. Match shower compartment brackets.

2.4 HARDWARE AND ACCESSORIES

- A. Overhead Bracing: Manufacturer's standard, continuous, extruded-aluminum headrail or cap with antigrip profile; in manufacturer's standard finish.
- B. Headrail with Hooks: Manufacturer's standard, continuous, extruded-aluminum headrail or cap with curtain hooks running in concealed track; with antigrip profile; in manufacturer's standard finish.
- C. Curtain Rod with Hooks: Manufacturer's standard, 1-inch-diameter, stainless steel curtain rod with matching hooks.
- D. Curtain: Flame-resistant, manufacturer's standard fabric that is stain resistant, self-sanitizing, antistatic, antimicrobial, and launderable to a temperature of not less than 90 deg F.
 - 1. Flame Resistance: Passes NFPA 701 tests when tested by a testing and inspecting agency acceptable to authorities having jurisdiction.
 - 2. Labeling: Identify fabrics with appropriate markings of applicable testing and inspecting agency.
 - 3. Curtain Grommets: Two-piece, rolled-edge, rustproof, nickel-plated brass; spaced not more than 6 inches o.c.; machined into top hem.
 - 4. Width: Minimum 12 inches wider than opening.
 - 5. Length: Where curtain extends to a floor surface, size so that bottom hem clears finished floor by not more than 1 inch and not less than 1/2 inch above floor surface. Where curtains extend to a shower-receptor curb, size so that bottom hem hangs above curb line and clears curb line by not more than 1/2 inch.
 - 6. Color and Pattern: As selected by Architect from manufacturer's full range.
- E. Anchorages and Fasteners: Manufacturer's standard, exposed fasteners of stainless steel, chrome-plated steel, or solid brass, finished to match the items they are securing; with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. Use countersunk, flush-type bolt heads or otherwise make fasteners inconspicuous if exposed on opposite side of panel from hardware or accessory item. For concealed anchors, use stainless steel, hot-dip galvanized steel, or other rust-resistant, protective-coated steel compatible with related materials.

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2.5 MATERIALS

- A. Aluminum Castings: ASTM B26/B26M.
- B. Aluminum Extrusions: ASTM B221.
- C. Stainless Steel Sheet: ASTM A240/A240M or ASTM A666, Type 304, stretcher-leveled standard of flatness.
- D. Stainless Steel Castings: ASTM A743/A743M.
- E. Zamac: ASTM B86, commercial zinc-alloy die castings, chrome plated.

2.6 FABRICATION

- A. Fabricate shower and dressing compartment components to sizes indicated.
- B. Overhead-Braced Compartments: Manufacturer's standard, corrosion-resistant supports, leveling method, and anchors at pilasters and walls to suit floor and wall conditions. Provide shoes at pilasters to conceal supports and leveling method.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas and conditions, with Installer present, for compliance with requirements for fastening, support, alignment, operating clearances, and other conditions affecting performance of the Work.
 - 1. Confirm location and adequacy of blocking and supports required for installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF SOLID-PLASTIC SHOWER AND DRESSING COMPARTMENTS

- A. General: Comply with manufacturer's written installation instructions. Install compartments rigid, straight, level, and plumb. Secure compartments in position with manufacturer's recommended anchoring devices.
 - 1. Clearances for Dressing Compartments: Maximum 1/2 inch between pilasters and panels; 1 inch between panels and walls.
 - 2. Full-Height (Continuous) Brackets: Secure panels to walls and to pilasters with full-height brackets.
 - a. Locate bracket fasteners so holes for wall anchors occur in masonry or tile joints.
 - b. Align brackets at pilasters with brackets at walls.

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- B. Overhead-Braced Compartments: Secure pilasters to floor, and level, plumb, and tighten. Set pilasters with anchors penetrating not less than 1-3/4 inches into structural floor unless otherwise indicated in manufacturer's written instructions. Secure continuous headrail to each pilaster with no fewer than two fasteners.
- C. Curtains: Install curtains to specified length, and verify that they hang vertically without stress points or diagonal folds.

3.3 ADJUSTING AND CLEANING

- A. Curtain Adjustment: After hanging curtains, test and adjust each track or rod to produce unencumbered, smooth operation. Steam and dress down curtains as required to produce crease- and wrinkle-free installation. Remove and replace curtains that are stained or soiled or that have stress points or diagonal folds.
- B. Clean exposed surfaces of compartments after removing strippable, temporary protective covering. Comply with manufacturer's written instructions for stripping of temporary protective covering and cleaning. Replace damaged or defective items.

END OF SECTION

SECTION 210500 - COMMON WORK RESULTS FOR FIRE SUPPRESSION

PART 1 - GENERAL

1.1 SUMMARY

A. The Work of this Section includes:

1. Escutcheons.

1.2 DEFINITIONS

- A. Existing Piping to Remain: Existing piping that is not to be removed and that is not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 ACTION SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.

B. Product Data:

1. For each type of product, excluding motors which are included in Part 1 of the fire-suppression equipment Sections. On data submittal sheets where more than one product is described, clearly annotate which product(s) is to be supplied.
 - a. Include construction details, material descriptions, and dimensions of components.
 - b. Include operating characteristics and furnished accessories.

PART 2 - PRODUCTS

2.1 ESCUTCHEONS

A. Escutcheon Types:

1. One-Piece, Steel Type: With polished, chrome-plated finish and setscrew fastener.
2. One-Piece, Stamped-Steel Type: With polished, chrome-plated finish and spring-clip fasteners.
3. Split-Plate, Stamped-Steel Type: With polished, chrome-plated finish; concealed hinge; and spring-clip fasteners.

PART 3 - EXECUTION

3.1 INSTALLATION OF ESCUTCHEONS

- A. Install escutcheons for piping penetrations of walls, ceilings, and finished floors.
- B. Install escutcheons with ID to closely fit around pipe and with OD that completely covers opening.

3.2 FIELD QUALITY CONTROL

- A. Escutcheons:
 - 1. Using new materials, replace broken and damaged escutcheons.

3.3 ESCUTCHEONS APPLICATION

- A. Escutcheons for New Piping and Relocated Existing Piping:
 - 1. Bare Piping at Wall and Floor Penetrations in Finished Spaces:
 - a. One piece, stamped steel or split plate, stamped steel with concealed hinge with polished, chrome-plated finish.
 - 2. Bare Piping at Ceiling Penetrations in Finished Spaces:
 - a. One piece, steel with polished, chrome-plated finish.
- B. Escutcheons for Existing Piping to Remain:
 - 1. Bare Piping at Wall and Floor Penetrations in Finished Spaces: Split plate, stamped steel with concealed hinge with polished, chrome-plated finish.
 - 2. Bare Piping at Ceiling Penetrations in Finished Spaces: Split plate, stamped steel with concealed hinge with polished, chrome-plated finish.

END OF SECTION

SECTION 210529 - HANGERS AND SUPPORTS FOR FIRE-SUPPRESSION PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Pipe hangers and supports for fire-suppression piping - metal.
2. Fastener systems.

1.2 ACTION SUBMITTALS

A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.

B. Product Data:

1. For each type of product. On data submittal sheets where more than one product is described, clearly annotate which product(s) is to be supplied.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Hangers and supports for fire-suppression piping and equipment are to withstand the effects of gravity loads and stresses within limits and under conditions indicated in accordance with ASCE/SEI 7.
- B. NFPA Compliance: Comply with NFPA 13.
- C. UL Compliance: Comply with UL 203.

2.2 PIPE HANGERS AND SUPPORTS FOR FIRE-SUPPRESSION PIPING - METAL

A. Pipe Hangers and Supports for Fire-Suppression Piping - Carbon Steel:

1. Description: Factory-fabricated components, NFPA approved, UL listed, or FM Global approved for fire-suppression piping support.
2. Galvanized Metallic Coatings: Pregalvanized or hot-dip galvanized.
3. Hanger Rods: Continuous-thread rod, nuts, and washer made of carbon steel.

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2.3 FASTENER SYSTEMS

- A. Fastener System - NFPA/UL/FM Powder-Actuated Fasteners: NFPA-approved, UL-listed, or FM Global-approved threaded-steel stud, for use in hardened portland cement concrete, with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.
- B. Fastener System - NFPA/UL/FM Mechanical-Expansion Anchors: NFPA-approved, UL-listed, or FM Global-approved, insert-wedge-type anchors, for use in hardened portland cement concrete; with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.
 - 1. Indoor Applications: Zinc coated or stainless.

2.4 MATERIALS

- A. Aluminum: ASTM B221.
- B. Carbon Steel: ASTM A1011/A1011M.
- C. Structural Steel: ASTM A36/A36M, carbon-steel plates, shapes, and bars; black and galvanized.
- D. Stainless Steel: ASTM A240/A240M.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Strength of Support Assemblies: Where not indicated, select sizes of components, so strength will be adequate to carry static loads within specified loading limits. Minimum static design load used for strength determination is to comply with NFPA 13 requirements.

3.2 INSTALLATION OF HANGERS AND SUPPORTS

- A. Install hangers and supports to allow controlled thermal movement of piping systems, permit freedom of movement between pipe anchors, and facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- B. Install lateral bracing with pipe hangers and supports to prevent swaying.
- C. Load Distribution: Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- D. Metal Pipe-Hanger Installation: Comply with installation requirements of approvals and listings. Install hangers, supports, clamps, and attachments as required to properly support piping from building structure.
- E. Fastener System Installation:

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1. Install powder-actuated fasteners for use in lightweight concrete or concrete slabs less than 4 inches thick in concrete, after concrete is placed and completely cured. Use operators that are licensed by powder-actuated tool manufacturer. Install fasteners in accordance with powder-actuated tool manufacturer's operating manual. Install in accordance with approvals and listings.
2. Install mechanical-expansion anchors in concrete, after concrete is placed and completely cured. Install fasteners in accordance with manufacturer's written instructions. Install in accordance with approvals and listings.

- F. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.

3.3 ADJUSTING

- A. Hanger Adjustments: Adjust hangers to distribute loads equally on attachments and to achieve indicated slope of pipe.
- B. Trim excess length of continuous-thread hanger and support rods to 1-1/2 inches.

3.4 HANGER AND SUPPORT SCHEDULE

- A. Specific hanger and support requirements are in Sections specifying piping systems and equipment.
- B. Comply with NFPA requirements for pipe-hanger selections and applications that are not specified in piping system Sections.
- C. Use hangers and supports with galvanized metallic coatings for piping and equipment that will not have field-applied finishes.
- D. Use carbon-steel pipe hangers and supports and attachments for general service applications.
- E. Horizontal-Piping Hangers and Supports: Comply with NFPA requirements. Unless otherwise indicated and except as specified in piping system Sections, install the following types:
1. Adjustable, Steel Clevis Hangers (MSS Type 1): For suspension of noninsulated or insulated, stationary pipes NPS 1/2 to NPS 30.
 2. Steel Pipe Clamps (MSS Type 4): For suspension of NPS 1/2 to NPS 24 if little or no insulation is required.
 3. Adjustable, Swivel-Ring Band Hangers (MSS Type 10): For suspension of noninsulated, stationary pipes NPS 1/2 to NPS 8.
- F. Vertical-Piping Clamps: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
1. Extension Pipe or Riser Clamps (MSS Type 8): For support of pipe risers NPS 3/4 to NPS 24.
 2. Carbon- or Alloy-Steel Riser Clamps (MSS Type 42): For support of pipe risers NPS 3/4 to NPS 24 if longer ends are required for riser clamps.

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- G. Hanger-Rod Attachments: Comply with NFPA requirements.
- H. Building Attachments: Comply with NFPA requirements. Unless otherwise indicated and except as specified in piping system Sections, install the following types:
 - 1. Steel or Malleable-Concrete Inserts (MSS Type 18): For upper attachment to suspend pipe hangers from concrete ceiling.
 - 2. C-Clamps (MSS Type 23): For structural shapes.
 - 3. Side-Beam Brackets (MSS Type 34): For sides of steel or wooden beams.
- I. Use powder-actuated fasteners or mechanical-expansion anchors instead of building attachments where required in concrete construction.

END OF SECTION

SECTION 211000 - WATER-BASED FIRE-SUPPRESSION SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Fire-suppression piping, fittings, and appurtenances.
2. Fire-suppression piping specialties.
3. Sprinklers.

1.2 DEFINITIONS

- A. Standard-Pressure Fire-Suppression System Piping: Piping designed to operate at working pressure of 175 psig maximum.

1.3 ACTION SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.

B. Product Data:

1. For each type of product. On data submittal sheets where more than one product is described, clearly annotate which product(s) is to be supplied.
 - a. Include construction details, material descriptions, dimensions of individual components and profiles.
 - b. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

C. Shop Drawings:

1. Prepare in accordance with NFPA 13 section "Working Plans."
 - a. Include plans, elevations, and sections of the system piping and details.
 - b. Include detailed riser diagram and schematic diagram showing system supply, supply connection, devices, valves, pipe and fittings.
 - c. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
2. Prepare computer-generated hydraulic calculations in accordance with the following:
 - a. Name of hydraulic program used.
 - b. Water supply information, including fire hydrant flow test data report.
3. Submit documents and calculations prepared by NICET Level IV-certified technician,

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“Water-Based Systems Layout.” NICET certified-technician submittals are to include the following information on each drawing title block: technician’s name, NICET certification number, and NICET certification specialty area and level.

4. Include diagrams for power, signal, and control wiring.
- D. Delegated Design Submittals: For fire-suppression systems indicated to comply with performance requirements and design criteria, including analysis data, prepared by NICET Level IV-certified technician, “Water-Based Systems Layout.” NICET certified-technician submittals are to include the following information on each drawing title block: technician’s name, NICET certification number, and NICET certification specialty area and level.

1.4 INFORMATIONAL SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Coordination Drawings: Fire-suppression system plans and sections, drawn to scale, showing the items described in this Section and coordinated with all building trades.
- C. Qualification Data: For qualified Installer.
- D. Design Data: Approved fire-suppression piping working plans, prepared in accordance with NFPA 13, including documented approval by AHJs, and including hydraulic calculations if applicable.
- E. Field Test Reports:
 1. Indicate and interpret test results for compliance with performance requirements and as described in NFPA 13. Include "Contractor's Material and Test Certificate for Aboveground Piping."
 2. Fire-hydrant flow test report.
- F. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Operation and Maintenance Data: For fire-suppression systems and specialties to include in emergency, operation, and maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

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1.7 QUALITY ASSURANCE

A. Installer Qualifications:

1. Installer's responsibilities include designing, fabricating, and installing fire-suppression systems and providing professional engineering services needed to assume engineering responsibility. Base calculations on results of fire-hydrant flow test.

1.8 FIELD CONDITIONS

A. Interruption of Existing Fire-Suppression Service: Do not interrupt fire-suppression service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary fire-suppression service in accordance with requirements indicated:

1. Notify Owner no fewer than seven days in advance of proposed interruption of fire-suppression service.
2. Do not proceed with interruption of fire-suppression service without Owner's written permission.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Automatic wet-pipe sprinkler system.

2.2 PERFORMANCE REQUIREMENTS

- A. Fire-Suppression System Components, Devices, and Accessories: Listed in ULSE's "Fire Protection Equipment Directory" and FM Approvals' "Approval Guide."
- B. Fire-suppression system equipment, specialties, accessories, installation, and testing to comply with NFPA 13.
- C. Standard-Pressure Piping System Component: Listed for 175 psig minimum working pressure.
- D. Delegated Design: Engage a NICET Level IV-certified technician, "Water-Based Systems Layout" to design fire-suppression systems.

1. Fire-Hydrant Flow Test:

- a. Perform fire-hydrant flow test and record the following conditions:

- 1) Date: <Insert test date>.
- 2) Time: <Insert time>[a.m.][p.m.]
- 3) Performed by: <Insert operator's name> of <Insert firm>.
- 4) Location of Residual Fire Hydrant R: <Insert location>.
- 5) Location of Flow Fire Hydrant F: <Insert location>.
- 6) Static Pressure at Residual Fire Hydrant R: <Insert psig>.

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- 7) Measured Flow at Flow Fire Hydrant F: <Insert gpm>.
 - 8) Residual Pressure at Residual Fire Hydrant R: <Insert psig>.
- b. Fire-hydrant flow test must be performed within previous 12 months prior to completion of design documents and hydraulic calculations.
2. Margin of Safety for Available Water Flow and Pressure: 10 percent, including losses through water-service piping, valves, and backflow preventers.
 3. Sprinkler Occupancy Hazard Classifications: As indicated on Drawings.
 4. Minimum Density for Automatic-Sprinkler Piping Design:
 - a. Light-Hazard Occupancy: 0.10 gpm/sq. ft. over 1500 sq. ft. area.
 - b. Ordinary-Hazard, Group 1 Occupancy: 0.15 gpm/sq. ft. over 1500 sq. ft. area.
 5. Maximum protection area per sprinkler in accordance with ULSE listing.
- E. Obtain documented approval of fire-suppression system design from AHJs.

2.3 FIRE-SUPPRESSION PIPING, FITTINGS, AND APPURTENANCES

A. Steel Pipe, Fittings, and Appurtenances:

1. Schedule 40 Standard-Weight Steel Pipe: Galvanized- and black-steel pipe, ASTM A53/A53M, ASTM A135/A135M, or ASTM A795/A795M.
 - a. Standards:
 - 1) UL 852.
 - 2) FM 1630.
 - b. Factory-applied exterior coating.
 - c. Factory-applied bacterial-resistant internal coating to reduce microbiologically influenced corrosion.
 - d. Pipe ends may be factory or field formed to match joining method.
2. Steel Pipe Nipples: Black steel, ASTM A733, made of ASTM A53/A53M, standard-weight, seamless steel pipe with threaded ends.
3. Steel Couplings: Galvanized and uncoated steel, ASTM A865/A865M, threaded.
4. Gray-Iron Threaded Fittings: Galvanized and uncoated gray-iron threaded fittings, ASME B16.4, Class 125, standard pattern.
5. Malleable- or Ductile-Iron Unions: ASME B16.3.
6. Plain-End-Pipe Fittings:
 - a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Gruvlok; an ASC Engineered Solution
 - 2) Shurjoint; a part of Aalberts Integrated Piping Systems
 - 3) Victaulic Company

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- b. Pressure Rating: 175 psig minimum.
 - c. Plain-End Fittings for Steel Piping: Galvanized or uncoated plain-end fittings, ASTM A53/A53M, carbon steel or ASTM A106/A106M, forged steel with dimensions matching steel pipe.
 - d. Plain-End-Pipe Couplings for Steel Piping: Rigid pattern for steel-pipe dimensions, ductile-iron or malleable-iron housing. Include EPDM-rubber gasket, and bolts and nuts.
7. Grooved-Joint, Steel-Pipe Appurtenances:
- a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Gruvlok; an ASC Engineered Solution
 - 2) Tyco Fire Products; brand of Johnson Controls International plc, Building Solutions North America
 - 3) Victaulic Company
 - b. Pressure Rating: 175 psig minimum.
 - c. Grooved-End Fittings for Steel Piping: Galvanized or uncoated grooved-end fittings, ASTM A47/A47M, malleable-iron casting or ASTM A536, ductile-iron casting, with dimensions matching steel pipe.
 - d. Grooved-End-Pipe Couplings for Steel Piping: AWWA C606 and UL 213 rigid pattern, unless otherwise indicated, for steel-pipe dimensions. Include ferrous housing sections, EPDM-rubber gasket, and bolts and nuts.

2.4 FIRE-SUPPRESSION PIPING SPECIALTIES

A. Adjustable Drop Nipples:

- 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Aegis Technologies, Inc.
- 2. Standard: UL 1474.
- 3. Pressure Rating: 250 psig minimum.
- 4. Body Material: Steel pipe with EPDM-rubber O-ring seals.
- 5. Size: Same as connected piping.
- 6. Length: Adjustable.
- 7. Inlet and Outlet: Threaded.

2.5 SPRINKLERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- 1. Reliable Automatic Sprinkler Co., Inc. (The)
- 2. Tyco Fire Products; brand of Johnson Controls International plc, Building Solutions

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- North America
 - 3. Victaulic Company
 - 4. Viking Group Inc.
- B. Standards:
- 1. UL 199.
 - 2. UL 1626.
 - 3. UL 1767.
 - 4. FM 2000.
 - 5. FM 2008.
 - 6. FM 2030.
- C. Listed in ULSE's "Fire Protection Equipment Directory" or FM Approvals' "Approval Guide."
- D. Pressure Rating for Sprinklers:
- 1. Standard Automatic Sprinklers: 175 psig minimum.
- E. Sprinklers, Automatic Wet with Heat-Responsive Element:
- 1. Characteristics: Nominal 1/2-inch orifice with Discharge Coefficient K of 5.6, and for "Ordinary" temperature classification rating unless otherwise indicated or required by application.
 - 2. Standard Spray, Standard Response:
 - a. Flat, concealed pendent.
 - b. Horizontal sidewall.
 - 3. Standard Spray, Quick Response:
 - a. Flat, concealed pendent.
 - b. Horizontal sidewall.
 - 4. Extended Coverage:
 - a. Horizontal sidewall.
- F. Sprinkler Finishes: Bronze, and painted.
- G. Special Coatings: Corrosion-resistant paint.
- H. Sprinkler Escutcheons: Materials, types, and finishes for the following sprinkler mounting applications. Escutcheons for concealed, flush, and recessed-type sprinklers are specified with sprinklers.
- 1. Ceiling Mounting: Plastic, white finish, one piece, flat.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Perform fire-hydrant flow test. Use results for system design calculations required in "Quality Assurance" Article.
1. Flow test is to be performed to meet the criteria established by NFPA 13.
 2. Flow test is to be conducted in accordance with NFPA 291.
 3. Test is to be performed during a period of ordinary demand for the water system.
 - a. To obtain satisfactory test results of expected flow or rated capacities, sufficient discharge should be achieved to cause drop of at least 10 percent.
 4. Pitot readings are to be taken at the 2-1/2-inch orifice connection.
 5. The pitot reading is to range from 10 to 35 psig.
 6. Open additional hydrant outlets as needed to control pitot readings.
 7. The pitot pressure and corresponding residual pressure readings are to be taken consecutively as pressure fluctuates between a high number and low number.
- B. Flow Test Data Written Report:
1. Flow data report is to be written in accordance with NFPA 291.
 2. Flow data report is to include a copy of all flow data recorded during the test, including a site plan showing the tested fire hydrants with respect to the fire water service to the building. Site plan is to indicate which hydrant was flowed and which hydrant was used for pressure reading. Provide date of test, name of testing agency, and name of individual performing test.
- C. Water Supply Curve: Provide water supply curve based on the lowest supply for a given set of test data. For a given residual pressure reading, the supply is to be graphed utilizing the corresponding pitot pressure/flow reading and static pressure reading.
- D. Documentation is to include calibration certifications for gauges used in the flow tests. The certifications are to be from within the previous six (6) months from a reputable agency recognized for certifying pressure gauges.
- E. Report flow test results promptly and in writing. A copy of the flow test data report is to be submitted with the hydraulic calculations.

3.2 INSTALLATION OF FIRE-SUPPRESSION PIPING

- A. Locations and Arrangements: Drawing plans, schematics, and diagrams indicate general location and arrangement of piping. Install piping as indicated on approved working plans.
1. Deviations from approved working plans for piping require written approval from AHJs. File written approval with Architect before deviating from approved working plans.
 2. Coordinate layout and installation of sprinklers with other construction that penetrates ceilings, including light fixtures, HVAC equipment, and partition assemblies.

- B. Piping Standard: Comply with NFPA 13 requirements for installation of fire-suppression piping.
- C. Install listed fittings to make changes in direction, branch takeoffs from mains, and reductions in pipe sizes.
- D. Install unions adjacent to each valve in pipes NPS 2 and smaller.
- E. Install hangers and supports for fire-suppression piping in accordance with NFPA standards.
- F. Fill wet-type fire-suppression system piping with water.
- G. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 210500 "Common Work Results for Fire-Suppression Piping."

3.3 INSTALLATION OF PIPING JOINTS

- A. Install couplings, unions, nipples, and transition and special fittings that have finish and pressure ratings same as or higher than system's pressure rating for aboveground applications unless otherwise indicated.
- B. Install unions adjacent to each valve in pipes NPS 2 and smaller.
- C. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- D. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.
- E. Threaded Joints: Thread pipe with tapered pipe threads in accordance with ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
 - 1. Apply appropriate tape or thread compound to external pipe threads.
 - 2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.
- F. Steel-Piping, Cut-Grooved Joints: Cut square-edge groove in end of pipe in accordance with AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings in accordance with AWWA C606 for steel-pipe joints.
- G. Steel-Piping, Roll-Grooved Joints: Roll rounded-edge groove in end of pipe in accordance with AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings in accordance with AWWA C606 for steel-pipe grooved joints.

3.4 IDENTIFICATION

- A. Install labeling and pipe markers on equipment and piping in accordance with NFPA 13 requirements.

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3.5 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Perform the following tests and inspections:
 - 1. Leak Test: After installation, charge systems and test for leaks. Repair leaks and retest until no leaks exist.
 - 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
 - 3. Flush, test, and inspect fire-suppression systems in accordance with NFPA standards.
 - 4. Verify that sprinklers' original factory finish has not been contaminated with dirt, debris, or paint. Sprinklers containing other-than-original factory finish are to be considered defective and replaced with new products. Repair and/or cleaning is not acceptable.
- C. Fire-suppression piping system will be considered defective if it does not pass tests and inspections.
- D. Fire-suppression piping system components considered defective during testing will be replaced with new components. Repair of defective components is not acceptable.
- E. Prepare test and inspection reports.

3.6 CLEANING

- A. Clean dirt and debris from fire-suppression system piping, system control valves, sprinklers, and associated components.
- B. Only sprinklers with their original factory finish are acceptable. Remove and replace any sprinklers that are painted or have any other finish than their original factory finish.

3.7 PIPING SCHEDULE

- A. Standard-Pressure, Wet-Pipe Sprinkler System, NPS 2 (DN 50) and Smaller, to Be One of the Following:
 - 1. Schedule 40, black-steel pipe with threaded ends; uncoated, gray-iron threaded fittings; and threaded joints.
 - 2. Schedule 40, black-steel pipe with cut- or roll-grooved ends; uncoated, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.

3.8 SPRINKLER SCHEDULE

- A. Use sprinkler types in subparagraphs below for the following applications:
 - 1. Rooms with Gypsum Wallboard Ceilings and Soffits: Flat concealed sprinklers.
 - 2. Wall or Pipe Mounting: Horizontal sidewall sprinklers.
 - 3. Special Applications: Extended-coverage, flow-control, and quick-response sprinklers where indicated.

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- B. Provide sprinkler types in subparagraphs below with finishes indicated.
1. Sidewall Sprinklers: Factory-painted white in finished spaces exposed to view; corrosion resistant.
 2. Flat Concealed Sprinklers: Rough brass, with factory-painted white cover plate.

END OF SECTION

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SECTION 230593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 - GENERAL

1.1 SUMMARY

- A. The Work of this Section Includes:
 - 1. TAB of Air Systems:
 - a. Constant-volume air systems.
 - 2. TAB of existing HVAC systems and equipment.

1.2 DEFINITIONS

- A. AABC: Associated Air Balance Council.
- B. FFT: Fast Fourier transform.
- C. NEBB: National Environmental Balancing Bureau.
- D. TAB: Testing, adjusting, and balancing.
- E. TABB: Testing, Adjusting, and Balancing Bureau.
- F. TAB Specialist: An independent entity meeting qualifications to perform TAB work.
- G. TDH: Total dynamic head.

1.3 INFORMATIONAL SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Qualification Data: Within 60 days of Contractor's Notice to Proceed, submit documentation that the TAB specialist and this Project's TAB team members meet the qualifications specified in "Quality Assurance" Article.
- C. Contract Documents Examination Report: Within 90 days of Contractor's Notice to Proceed, provide a summary report of the examination review required in "Examination" Article, if issues are discovered that may preclude the proper testing and balancing of the systems. Submit a summary report of the examination review required in "Examination" Article.
- D. Strategies and Procedures Plan: Within 90 days of Contractor's Notice to Proceed, submit TAB strategies and step-by-step procedures, as specified in "Preparation" Article.

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- E. System Readiness Checklists: Within 90 days of Contractor's Notice to Proceed, submit system readiness checklists, as specified in "Preparation" Article, to be used and filled out by systems installers verifying that systems are ready for TAB.
- F. Certified TAB Reports: Within 30 days of completion of testing and balancing work.
 - 1. Submit one copy of the final TAB report to the design professional of record's firm.
- G. Sample Report Forms: For each specified report.
- H. Instrument Calibration Reports: Include the following:
 - 1. Instrument type and make.
 - 2. Serial number.
 - 3. Application.
 - 4. Dates of use.
 - 5. Dates of calibration and calibration interval.

1.4 QUALITY ASSURANCE

- A. TAB Specialist Firm's Qualifications: Certified by NEBB or TABB or a firm that has 10 years' experience with testing and balancing of mechanical systems.
- B. Instrumentation Type, Quantity, Accuracy, and Calibration: Comply with requirements in ASHRAE 111, Section 4, "Instrumentation."
- C. ASHRAE 111 Compliance: For testing and balancing of HVAC systems.
 - 1. ASHRAE 62.1 Compliance: Applicable requirements in ASHRAE 62.1, Section 7.2.2 - "Air Balancing."
- D. ASHRAE/IES 90.1 Compliance: Applicable requirements in ASHRAE/IES 90.1, Section 6.7.3.3 - "System Balancing."

1.5 FIELD CONDITIONS

- A. Partial Owner Occupancy: Owner may occupy completed areas of building before Substantial Completion. Cooperate with Owner during TAB operations to minimize conflicts with Owner's operations.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine the Contract Documents to become familiar with Project requirements and to discover

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conditions in system designs that may preclude proper TAB of systems and equipment. Submit Contract Documents Examination Report summary of findings.

- B. Examine installed systems for balancing devices, such as manual volume dampers. Note the locations of devices that are not accessible for TAB.
- C. Examine the approved submittals for HVAC systems and equipment.

3.2 PREPARATION

- A. Prepare a TAB plan that includes the following:
 - 1. Equipment and systems to be tested.
 - 2. Strategies and step-by-step procedures for balancing the systems.
 - 3. Instrumentation to be used.
 - 4. Sample forms with specific identification for all equipment.
- B. Prepare system-readiness checklists of HVAC systems and equipment to verify system readiness for TAB work. Include, at a minimum, the following:
 - 1. Airside:
 - a. Duct systems are complete with terminals installed.
 - b. Volume dampers are open and functional.
 - c. Fans are operating, free of vibration, and rotating in correct direction.
 - d. Ceilings are installed.
 - e. Note location of balancing devices that are inaccessible.

3.3 GENERAL PROCEDURES FOR TESTING AND BALANCING

- A. Perform testing and balancing procedures on each system in accordance with the procedures contained in AABC's "National Standards for Total System Balance", ASHRAE 111, and NEBB's "Procedural Standard for Testing, Adjusting and Balancing of Environmental Systems" and in this Section.
- B. Cut ducts and equipment casings for installation of test probes to the minimum extent necessary for TAB procedures.
 - 1. Installing Contractor to Perform the Following:
 - a. After testing and balancing, patch probe holes in ducts with same material and thickness as used to construct ducts.
 - b. After testing and balancing, install test ports and duct access doors that comply with requirements in Section 233300 "Air Duct Accessories."
- C. Mark balancing devices, including damper-control positions, with paint or other suitable, permanent identification material to show final settings.
- D. Take and report testing and balancing measurements in inch-pound (IP) units.

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- E. Report deficiencies discovered before and during performance of TAB procedures. Observe and record system reactions to changes in conditions. Record default set points if different from indicated values.

3.4 TESTING, ADJUSTING, AND BALANCING OF HVAC EQUIPMENT

- A. Test, adjust, and balance HVAC equipment indicated on Drawings, including, but not limited to, the following:
 - 1. Motors.
 - 2. Fans.

3.5 GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

- A. Prepare test reports for both fans and outlets. Obtain approved submittals and recommended testing procedures. Cross-check the summation of required outlet volumes with required fan volumes.
- B. Prepare single-line schematic diagram of systems or color-coded HVAC drawings for the purpose of identifying HVAC components, including each air terminal unit and each air diffuser, register, and grille.
- C. Determine suitable locations in main and branch ducts for accurate duct-airflow measurements.
- D. Locate start-stop and disconnect switches, electrical interlocks, and motor controllers.

3.6 PROCEDURES FOR CONSTANT-VOLUME AIR SYSTEMS

- A. Adjust fans to deliver total indicated airflows within the maximum allowable fan speed listed by fan manufacturer.
 - 1. Measure total airflow.
 - a. Set outside-air, return-air, and relief-air dampers for proper position that simulates minimum outdoor-air conditions.
 - b. Where duct conditions allow, measure airflow by main Pitot-tube traverse. If necessary, perform multiple Pitot-tube traverses close to the fan and prior to any outlets, to obtain total airflow.
 - 2. Measure fan static pressures as follows:
 - a. Measure static pressure directly at the fan outlet.
 - b. Measure static pressure directly at the fan inlet.
 - 3. Do not make fan-speed adjustments that result in motor overload. Consult equipment manufacturers about fan-speed safety factors. Modulate dampers and measure fan-motor amperage to ensure that no overload occurs. Measure amperage in full-cooling, full-heating, economizer, and any other operating mode to determine the maximum required brake horsepower.

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- B. Adjust volume dampers for main duct, submain ducts, and major branch ducts to indicated airflows.
 - 1. Measure airflow of submain and branch ducts.
 - 2. Adjust submain and branch duct volume dampers for specified airflow.
 - 3. Re-measure each submain and branch duct after all volume dampers have been adjusted.
- C. Adjust air inlets and outlets for each space to indicated airflows.
 - 1. Set airflow patterns of adjustable outlets for proper distribution without drafts.
 - 2. Measure inlets' and outlets' airflow. Apply correction factors as applicable for each size and style of air device.
 - 3. Adjust each inlet and outlet for specified airflow.
 - 4. Re-measure each inlet and outlet after they have been adjusted.
- D. Verify final system conditions.
 - 1. Re-measure and confirm that minimum outdoor, return, and relief airflows are within design range. Readjust to within design tolerance if necessary.
 - 2. Re-measure and confirm that total airflow is within design.
 - 3. Re-measure all final fan operating data, speed, volts, amps, and static profile.
 - 4. Traverse the supply airflow in full airside economizer mode. Observe the mixed air plenum pressure as compared to normal operation: return air dampers open and minimum outside air varying to 100 percent outside air dampers fully open and return air dampers fully closed. Mixed air pressure is to remain constant plus/minus 20 percent or, otherwise, damper/fan adjustments will be required.
 - 5. Mark all final settings.
 - 6. Measure and record all operating data.
 - 7. Record final fan-performance data.

3.7 PROCEDURES FOR MOTORS

- A. Motors: 1/2 hp and larger; test at final balanced conditions and record the following data:
 - 1. Manufacturer's name, model number, and serial number.
 - 2. Motor horsepower rating.
 - 3. Motor rpm.
 - 4. Phase and hertz.
 - 5. Nameplate and measured voltage, each phase.
 - 6. Nameplate and measured amperage, each phase.
 - 7. Service factor and frame size.

3.8 PROCEDURES FOR TESTING, ADJUSTING, AND BALANCING EXISTING SYSTEMS

- A. Perform a preconstruction inspection of existing equipment that is to remain and be reused.
 - 1. Measure and record the operating speed, airflow, and static pressure of each fan prior to the start of any mechanical removals work.
 - 2. Measure motor voltage and amperage. Compare the values to motor nameplate information.

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3. Report on the operating condition of the equipment and the results of the measurements taken. Report deficiencies.
- B. TAB after Construction: Before performing testing and balancing of renovated existing systems, inspect existing equipment that is to remain and be reused to verify that existing equipment has been cleaned and refurbished in accordance with renovation scope indicated by Contract Documents. Verify the following:
 1. Fans are clean.
 2. Deficiencies noted in the preconstruction report are corrected.
- C. Perform testing and balancing of existing systems to the extent that existing systems are affected by the renovation work.
 1. Compare the indicated airflow of the renovated work to the measured fan airflows and determine the new fan speed.
 2. Verify that the indicated airflows of the renovated work result in fan speeds that are within the acceptable limits defined by equipment manufacturer.
 3. Balance each air outlet.

3.9 TOLERANCES

- A. Set HVAC system's airflow rates within the following tolerances:
 1. Exhaust Fans and Equipment with Fans: Plus 10 percent or minus 5 percent . If design value is less than 100 cfm, flow rate is within 10 cfm.
 2. Air Outlets and Inlets: Plus 10 percent or minus 5 percent . If design value is less than 100 cfm, flow rate is within 10 cfm.

3.10 FINAL TESTING AND BALANCING REPORT

- A. General: Prepare a certified written report; tabulate and divide the report into separate sections for tested systems and balanced systems.
 1. Include a certification sheet at the front of the report's binder, signed and sealed by the certified testing and balancing engineer.
 2. Include a list of instruments used for procedures, along with proof of calibration.
 3. Certify validity and accuracy of field data.
- B. General Report Data: In addition to form titles and entries, include the following data:
 1. Title page.
 2. Name and address of the TAB specialist firm and technician.
 3. Project name.
 4. Project location.
 5. Project Architect's name, firm, and address.
 6. Project engineer's name, firm, and address.
 7. Project Contractor's name, firm, and address.
 8. Report date.
 9. Signature of TAB supervisor who certifies the report.

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10. Table of Contents with the total number of pages defined for each section of the report. Number each page in the report.
 11. Summary of contents, including the following:
 - a. Indicated versus final performance.
 - b. Notable characteristics of systems.
 - c. Description of system operation sequence if it varies from the Contract Documents.
 12. Nomenclature sheets for each item of equipment.
 13. Data for terminal units, including manufacturer's name, type, size, and fittings.
 14. Notes to explain why certain final data in the body of reports vary from indicated values.
 15. Test conditions for fan performance forms, including the following:
 - a. Settings for exhaust-air dampers.
 - b. Fan drive settings, including settings and percentage of maximum pitch diameter.
 - c. Settings for pressure controller(s).
 - d. Other system operating conditions that affect performance.
- C. System Diagrams: Include schematic layouts of air distribution systems. Present each system with single-line diagram and include the following:
1. Quantities of exhaust airflows.
 2. Duct, outlet, and inlet sizes.
 3. Position of balancing devices.
- D. Fan Test Reports: For exhaust fans, include the following:
1. Fan Data:
 - a. System identification.
 - b. Location.
 - c. Make and type.
 - d. Model number and size.
 - e. Manufacturer's serial number.
 - f. Arrangement and class.
 - g. Sheave make, size in inches, and bore.
 - h. Center-to-center dimensions of sheave and amount of adjustments in inches.
 2. Motor Data:
 - a. Motor make and frame type and size.
 - b. Horsepower and speed.
 - c. Volts, phase, and hertz.
 - d. Full-load amperage and service factor.
 - e. Sheave make, size in inches, and bore.
 - f. Center-to-center dimensions of sheave and amount of adjustments in inches.
 - g. Number, make, and size of belts.
 3. Test Data (Indicated and Actual Values):
 - a. Total airflow rate in cfm.

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- b. Total system static pressure in inches wg.
- c. Fan speed.
- d. Discharge static pressure in inches wg.
- e. Suction static pressure in inches wg.

E. Air-Terminal-Device Reports:

1. Unit Data:

- a. System identification.
- b. Location and zone.
- c. Apparatus used for test.
- d. Area served.
- e. Make.
- f. Number from system diagram.
- g. Type and model number.
- h. Size.

2. Test Data (Indicated and Actual Values):

- a. Airflow rate in cfm.
- b. Preliminary airflow rate as needed in cfm.
- c. Final airflow rate in cfm.

F. Instrument Calibration Reports:

1. Report Data:

- a. Instrument type and make.
- b. Serial number.
- c. Application.
- d. Dates of use.
- e. Dates of calibration and interval.

END OF SECTION

SECTION 233113 - METAL DUCTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Rectangular ducts and fittings, single wall.
2. Sheet metal materials.
3. Sealants and gaskets.
4. Hangers and supports.

B. Related Requirements:

1. Section 230593 "Testing, Adjusting, and Balancing for HVAC" for testing, adjusting, and balancing requirements for metal ducts.
2. Section 233300 "Air Duct Accessories" for dampers, duct-mounted access doors and panels and turning vanes.

1.2 ACTION SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Product Data: For each type of product. On data submittal sheets where more than one product is described, clearly annotate which product(s) is to be supplied.
- C. Delegated Design Submittals:
 1. Ductwork:
 - a. Sheet metal thicknesses.
 - b. Joint and seam construction and sealing.
 - c. Reinforcement details and spacing.
 - d. Materials, fabrication, assembly, and spacing of hangers and supports.

1.3 INFORMATIONAL SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Field quality control reports.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Duct Design: Duct construction, including sheet metal thicknesses, seam and joint construction, reinforcements, and hangers and supports, to comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" and with performance requirements and design criteria indicated in "Duct Application Schedule" Article.
- B. Airstream Surfaces: Surfaces in contact with airstream comply with requirements in ASHRAE 62.1.
- C. ASHRAE 62.1 Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment," and Section 7 - "Construction and System Startup."
- D. Duct Dimensions: Unless specifically indicated otherwise on the Drawings, all duct dimensions indicated on the Drawings are inside clear dimensions and do not include insulation or duct wall thickness.

2.2 RECTANGULAR DUCTS AND FITTINGS

- A. Rectangular Ducts and Fittings - Single Wall:
 - 1. General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" based on static pressure indicated.
 - 2. Transverse Joints: Select joint types and fabricate joints in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 2-1, "Rectangular Duct Transverse/Transverse Joints," for static pressure, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
 - 3. Longitudinal Seams: Select seam types and fabricate in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 2-2, "Rectangular Duct/Longitudinal Seams," for static pressure, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
 - 4. Elbows, Transitions, Offsets, Branch Connections, and Other Duct Construction: Select types and fabricate in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Ch. 4, "Fittings and Other Construction," for static pressure, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

2.3 SHEET METAL MATERIALS

- A. General Material Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods. Sheet metal materials are to be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.
- B. Galvanized Sheet Steel: Comply with ASTM A653/A653M.

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1. Galvanized Coating Designation: G90 .
2. Finishes for Surfaces Exposed to View: Mill phosphatized.

2.4 SEALANTS AND GASKETS

- A. General Sealant and Gasket Requirements: Surface-burning characteristics for sealants and gaskets: Maximum flame-spread index of 25 and a maximum smoke-developed index of 50 when tested in accordance with UL 723 and certified by an NRTL.
- B. Water-Based Joint and Seam Sealant:
 1. Application Method: Brush on.
 2. Solids Content: Minimum 65 percent.
 3. Shore A Hardness: Minimum 20.
 4. Water resistant.
 5. Mold and mildew resistant.
 6. VOC: Maximum 75 g/L (less water).
 7. Maximum Static Pressure: 10-inch wg, positive and negative.
 8. Service: Indoor or outdoor.
 9. Substrate: Compatible with galvanized sheet steel (both PVC coated and bare), stainless steel, or aluminum sheets.
- C. Flanged Joint Sealant: Comply with ASTM C920.
 1. General: Single component, acid curing, silicone, elastomeric.
 2. Type: S.
 3. Grade: NS.
 4. Class: 25.
 5. Use: O.
 6. Sealant shall have a VOC content of 420 g/L or less.
- D. Flange Gaskets: Butyl rubber, neoprene, or EPDM polymer with polyisobutylene plasticizer.

2.5 HANGERS AND SUPPORTS

- A. Hanger Rods for Noncorrosive Environments: Galvanized-steel rods and nuts.
- B. Strap and Rod Sizes: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1, "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct."
- C. Duct Attachments: Sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials.

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PART 3 - EXECUTION

3.1 INSTALLATION OF DUCTS

- A. Install duct systems as indicated unless deviations to layout are approved on Shop Drawings and coordination drawings.
- B. Install ducts in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
- C. Install ducts in maximum practical lengths with fewest possible joints.
- D. Install factory- or shop-fabricated fittings for changes in direction, size, and shape and for branch connections.
- E. Unless otherwise indicated, install ducts vertically and horizontally, and parallel and perpendicular to building lines.
- F. Install ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building.
- G. Install ducts with a minimum clearance of 1 inch.
- H. Install dampers and all other duct-mounted accessories in air ducts where indicated on Drawings.
- I. Protect duct interiors from moisture, construction debris and dust, and other foreign materials both before and after installation. Comply with SMACNA's "IAQ Guidelines for Occupied Buildings Under Construction," Appendix G, "Duct Cleanliness for New Construction Guidelines."
- J. Elbows: Use long-radius elbows wherever they fit.
 - 1. Fabricate 90-degree rectangular mitered elbows to include turning vanes.
- K. Branch Connections: Use lateral or conical branch connections.

3.2 DUCT SEALING

- A. Seal ducts for duct static-pressure, seal classes, and leakage classes specified in "Duct Application Schedule" Article in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

3.3 INSTALLATION OF HANGERS AND SUPPORTS

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 5, "Hangers and Supports."
- B. Building Attachments: Concrete inserts, powder-actuated fasteners, or structural-steel fasteners

appropriate for construction materials to which hangers are being attached.

1. Use powder-actuated concrete fasteners for standard-weight aggregate concretes or for slabs more than 4 inches thick.
 2. Do not use powder-actuated concrete fasteners for lightweight-aggregate concretes or for slabs less than 4 inches thick.
- C. Hanger Spacing: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1, "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct," for maximum hanger spacing; install hangers and supports within 24 inches of each elbow and within 48 inches of each branch intersection.
- D. Install upper attachments to structures. Select and size upper attachments with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

3.4 DUCTWORK CONNECTIONS

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for branch, outlet and inlet, and terminal unit connections.

3.5 PAINTING

- A. Paint interior of metal ducts that are visible through registers and grilles and that do not have duct liner. Apply one coat of flat, black, latex paint over a compatible galvanized-steel primer. Paint materials and application requirements are specified in Section 099123 "Interior Painting."

3.6 FIELD QUALITY CONTROL

- A. Duct System Cleanliness Test Procedure:
1. Visually inspect duct system to ensure that no visible contaminants are present.
 2. Test sections of metal duct system, chosen randomly by Owner.
 3. Perform duct system cleanliness verification utilizing test procedure presented in NADCA ACR, Section 5 - "Cleanliness Verification and Documentation."
 - a. Acceptable Cleanliness Level: Net weight of debris collected on the filter media is to not exceed 0.75 mg/100 sq. cm.
- B. Duct system will be considered defective if it does not pass tests and inspections.
- C. Prepare test and inspection reports.

3.7 DUCT CLEANING

- A. Clean new duct system(s) if they do not pass duct system cleanliness test before testing, adjusting, and balancing.
- B. Use duct cleaning methodology as indicated in NADCA ACR.

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- C. Use service openings for entry and inspection.
 - 1. Remove and reinstall ceiling to gain access during the cleaning process.
- D. Particulate Collection and Odor Control:
 - 1. When venting vacuuming system inside the building, use HEPA filtration with 99.97 percent collection efficiency for 0.3-micron-size (or larger) particles.
 - 2. When venting vacuuming system to outdoors, use filter to collect debris removed from HVAC system, and locate exhaust downwind and away from air intakes and other points of entry into building.
- E. Cleaning: Clean the following components by removing surface contaminants and deposits:
 - 1. Air outlets and inlets (registers, grilles, and diffusers).
 - 2. Exhaust-air ducts, dampers, and turning vanes except in ceiling plenums and mechanical equipment rooms.
- F. Mechanical Cleaning Methodology:
 - 1. Clean metal duct systems using mechanical cleaning methods that extract contaminants from within duct systems and remove contaminants from building.
 - 2. Use vacuum-collection devices that are operated continuously during cleaning. Connect vacuum device to downstream end of duct sections so areas being cleaned are under negative pressure.
 - 3. Use mechanical agitation to dislodge debris adhered to interior duct surfaces without damaging integrity of metal ducts, duct liner, or duct accessories.
 - 4. Antimicrobial Agents and Coatings: Apply EPA-registered antimicrobial agents if fungus is present. Apply antimicrobial agents in accordance with manufacturer's written instructions after removal of surface deposits and debris.

3.8 DUCT APPLICATION SCHEDULE

- A. Fabricate all ducts to achieve SMACNA pressure rating, seal class, and leakage class as indicated below.
- B. Exhaust Ducts:
 - 1. Ducts Connected to Fans Exhausting (ASHRAE 62.1, Class 1 and 2) Air:
 - a. Pressure Rating: Negative 2-inch wg.
 - b. Minimum SMACNA Seal Class: B if negative pressure, and A if positive pressure.
 - c. SMACNA Leakage Class for Rectangular: 16 .
 - d. Material: Type G90 galvanized steel.
- C. Intermediate Reinforcement:
 - 1. Galvanized-Steel Ducts: G90 galvanized steel.
- D. Elbow Configuration:

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1. Rectangular Duct - Requirements for All Velocities: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-2, "Rectangular Elbows."
 - a. Radius Type RE 1 with minimum 1.5 radius-to-diameter ratio.
 - b. Radius Type RE 3 with minimum 1.0 radius-to-diameter ratio and two vanes.
 - c. Mitered Type RE 2 with vanes complying with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."

E. Branch Configuration:

1. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-6, "Branch Connection."
 - a. Rectangular Main to Rectangular Branch: 45-degree entry.
 - b. Rectangular Main to Round Branch: Conical spin in.

END OF SECTION

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SECTION 233300 - AIR DUCT ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Manual volume dampers.
 2. Turning vanes.
 3. Duct accessory hardware.

1.2 ACTION SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Product Data: For each type of product. On data submittal sheets where more than one product is described, clearly annotate which product(s) is to be supplied.
1. Construction details, material descriptions, and dimensions of individual components.
 2. For dampers, include housings, linkages, and operators.

1.3 CLOSEOUT SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Operation and Maintenance Data: For air duct accessories.

PART 2 - PRODUCTS

2.1 MANUAL VOLUME DAMPERS

- A. Standard, Steel, Manual Volume Dampers:
1. Performance:
 - a. Leakage Rating Class III: Leakage not exceeding 40 cfm/sq. ft. against 1 inch wg differential static pressure.
 2. Construction:
 - a. Linkage out of airstream.
 - b. Suitable for horizontal or vertical airflow applications.
 3. Frames:
 - a. Hat-shaped, 16-gauge-thick, galvanized sheet steel.

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- b. Mitered and welded corners.
 - c. Flanges for attaching to walls and flangeless frames for installing in ducts.
4. Blades:
- a. Multiple or single blade.
 - b. Parallel- or opposed-blade design.
 - c. Stiffen damper blades for stability.
 - d. Galvanized steel; 16 gauge thick.
5. Blade Axles: Galvanized steel.
6. Bearings: Molded synthetic.
- a. Dampers mounted with vertical blades to have thrust bearing at each end of every blade.
7. Tie Bars and Brackets: Galvanized steel.
8. Locking device to hold damper blades in a fixed position without vibration.
- B. Jackshaft:
- 1. Size: 1-inch diameter.
 - 2. Material: Galvanized-steel pipe rotating within pipe-bearing assembly mounted on supports at each mullion and at each end of multiple-damper assemblies.
 - 3. Length and Number of Mountings: As required to connect linkage of each damper in multiple-damper assembly.
- C. Damper Hardware:
- 1. Zinc-plated, die-cast core with dial and handle, made of 3/32-inch-thick zinc-plated steel, and a 3/4-inch hexagon locking nut.
 - 2. Include center hole to suit damper operating-rod size.
 - 3. Include elevated platform for insulated duct mounting.

2.2 TURNING VANES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- 1. Aero-Dyne Sound Control Co.
 - 2. Ductmate Industries, Inc; a DMI company
 - 3. Duro Dyne Inc.
 - 4. Elgen Manufacturing
 - 5. Ward Industries; a brand of Hart & Cooley, LLC
- B. Manufactured Turning Vanes for Metal Ducts: Fabricate curved blades of galvanized sheet steel; support with bars perpendicular to blades set; set into vane runners suitable for duct mounting.
- 1. Acoustic Turning Vanes: Fabricate airfoil-shaped extruded aluminum with perforated faces and fibrous-glass fill.

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- C. General Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible"; Figure 4-3, "Vaness and Vane Runners," and Figure 4-4, "Vane Support in Elbows."
- D. Vane Construction:
 - 1. Wall: Single.

2.3 DUCT ACCESSORY HARDWARE

- A. Instrument Test Holes: Cast iron or cast aluminum to suit duct material, including screw cap and gasket. Size to allow insertion of pitot tube and other testing instruments and of length to suit duct-insulation thickness.
- B. Adhesives: High strength, quick setting, neoprene based, waterproof, and resistant to gasoline and grease.

2.4 MATERIALS

- A. Galvanized Sheet Steel: Comply with ASTM A653/A653M.
 - 1. Galvanized Coating Designation: G90.
 - 2. Exposed-Surface Finish: Mill phosphatized.
- B. Extruded Aluminum: Comply with ASTM B221, Alloy 6063, Temper T6.
- C. Reinforcement Shapes and Plates: Galvanized-steel reinforcement where installed on galvanized sheet metal ducts; compatible materials for aluminum and stainless steel ducts.

PART 3 - EXECUTION

3.1 INSTALLATION OF AIR DUCT ACCESSORIES

- A. Install duct accessories in accordance with applicable details in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for metal ducts and in NAIMA AH116 for fibrous-glass ducts.
- B. Install duct accessories of materials suited to duct materials; use galvanized-steel accessories in galvanized-steel ducts.
- C. Install volume dampers at points on exhaust systems where branches extend from larger ducts.
- D. Set dampers to fully open position before testing, adjusting, and balancing.
- E. Install test holes at fan inlets and outlets and elsewhere as indicated and as needed for testing and balancing.
- F. Install duct test holes where required for testing and balancing purposes.

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3.2 FIELD QUALITY CONTROL

A. Tests and Inspections:

1. Operate dampers to verify full range of movement.
2. Inspect turning vanes for proper and secure installation, and verify that vanes do not move or rattle.

END OF SECTION

SECTION 233713.23 - REGISTERS AND GRILLES

PART 1 - GENERAL

1.1 SUMMARY

A. Related Requirements:

1. Section 233300 "Air Duct Accessories" for volume-control dampers not integral to registers and grilles.

1.2 ACTION SUBMITTALS

A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.

B. Product Data:

1. For each type of product. On data submittal sheets where more than one product is described, clearly annotate which product(s) is to be supplied.
 - a. Data Sheet: Indicate materials of construction, finish, and mounting details; and performance data including throw and drop, static-pressure drop, and noise ratings.
 - b. Register and Grille Schedule: Indicate drawing designation, room location, quantity, model number, size, and accessories furnished.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles introduce lists, the following requirements apply to product selection:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified on the Drawings.

2.2 MANUFACTURED UNITS

A. Registers and grilles are scheduled on the Drawings.

B. Color shall be white, unless noted on schedules on the Drawings.

2.3 SOURCE QUALITY CONTROL

A. Verification of Performance: Rate registers and grilles in accordance with ASHRAE 70.

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PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas where registers and grilles are installed for compliance with requirements for installation tolerances and other conditions affecting performance of equipment.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF REGISTERS AND GRILLES

- A. Install registers and grilles level and plumb.
- B. Outlets and Inlets Locations: Drawings indicate general arrangement of ducts, fittings, and accessories. Air outlet and inlet locations have been indicated to achieve design requirements for air volume, noise criteria, airflow pattern, throw, and pressure drop. Make final locations where indicated. Where architectural features or other items conflict with installation, notify Architect for a determination of final location.
- C. Install registers and grilles with airtight connections to ducts and to allow service and maintenance of dampers.

3.3 ADJUSTING

- A. After installation, adjust registers and grilles to air patterns indicated, or as directed, before starting air balancing.

END OF SECTION

SECTION 260010 - SUPPLEMENTAL REQUIREMENTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Requirements generally applicable to all electrical Work on the Project, including but not limited to Work specified in Divisions 26, 27, and 28.

1.2 REFERENCES

A. Abbreviations and Acronyms for Electrical Terms and Units of Measure:

1. 8P8C: An 8-position 8-contact modular jack.
2. A: Ampere, unit of electrical current.
3. AC or ac: Alternating current.
4. AFCI: Arc-fault circuit interrupter.
5. AIC: Ampere interrupting capacity.
6. AL, Al, or ALUM: Aluminum.
7. ASD: Adjustable-speed drive.
8. ATS: Automatic transfer switch.
9. AWG: American wire gauge; see ASTM B258.
10. BAS: Building automation system.
11. BIL: Basic impulse insulation level.
12. BIM: Building information modeling.
13. BMS: Building management system.
14. CAD: Computer-aided design or drafting.
15. CATV: Community antenna television.
16. CB: Circuit breaker.
17. cd: Candela, the SI fundamental unit of luminous intensity.
18. CO/ALR: Copper-aluminum, revised.
19. COPS: Critical operations power system.
20. CU or Cu: Copper.
21. CU-AL or AL-CU: Copper-aluminum.
22. dB: Decibel, a unitless logarithmic ratio of two electrical, acoustical, or optical power values.
23. dB(A-weighted) or dB(A): Decibel acoustical sound pressure level with A-weighting applied in accordance with IEC 61672-1.
24. dB(adjusted) or dBa: Decibel weighted absolute noise power with respect to 3.16 pW (minus 85 dBm).
25. dBm: Decibel absolute power with respect to 1 mW.
26. DC or dc: Direct current.
27. DCOA: Designated critical operations area.
28. DDC: Direct digital control (HVAC).
29. EGC: Equipment grounding conductor.
30. ELV: Extra-low voltage.

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31. EMF: Electromotive force.
32. EMI: Electromagnetic interference.
33. EMP: Electrical maintenance program (operation and maintenance); electromagnetic pulse (transient analysis).
34. EPS: Emergency power supply.
35. EPSS: Emergency power supply system.
36. ESS: Energy storage system.
37. EV: Electric vehicle.
38. EVPE: Electric vehicle power export equipment.
39. EVSE: Electric vehicle supply equipment.
40. FACU: Fire-alarm control unit.
41. fc: Footcandle, an internationally recognized unit of illuminance equal to one lumen per square foot or 10.76 lx. The simplified conversion $1 \text{ fc} = 10 \text{ lx}$ in the Specifications is common practice and considered adequate precision for building construction activities. When there are conflicts, lux is the primary unit; footcandle is specified for convenience.
42. FLC: Full-load current.
43. ft: Foot.
44. ft-cd: Foot-candle, the antiquated U.S. standard unit of illuminance, equal to one international candle measured at a distance of one foot, that was superseded in 1948 by the unit "footcandle" when the SI unit candela (cd) replaced the international candle; see "fc."
45. FTP: File transfer protocol.
46. GEC: Grounding electrode conductor.
47. GFCI: Ground-fault circuit interrupter.
48. GFPE: Ground-fault protection of equipment.
49. GND: Ground.
50. HACR: Heating, air conditioning, and refrigeration.
51. HDPE: High-density polyethylene.
52. HID: High-intensity discharge.
53. HP or hp: Horsepower.
54. HVAC: Heating, ventilating, and air conditioning.
55. Hz: Hertz.
56. IBT: Intersystem bonding termination.
57. ICT: Information and communications technology.
58. inch: Inch. To avoid confusion, the abbreviation "in." is not used.
59. I/O: Input/output.
60. IP: Ingress protection rating (enclosures); Internet protocol (communications).
61. IR: Infrared.
62. IS: Intrinsically safe.
63. IT&R: Inspecting, testing, and repair.
64. ITE: Information technology equipment.
65. kAIC: Kiloampere interrupting capacity.
66. kmil or MCM: One thousand circular mils.
67. kV: Kilovolt.
68. kVA: Kilovolt-ampere.
69. kvar: Kilovolt-ampere reactive.
70. kW: Kilowatt.
71. kWh: Kilowatt-hour.
72. LAN: Local area network.
73. lb: Pound (weight).
74. lbf: Pound (force).

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75. LCD: Liquid-crystal display.
76. LCDI: Leakage-current detector-interrupter.
77. LED: Light-emitting diode.
78. Li-ion: Lithium-ion.
79. lm: Lumen, the SI-derived unit of luminous flux.
80. LNG: Liquefied natural gas.
81. LP-Gas: Liquefied petroleum gas.
82. LRC: Locked-rotor current.
83. LV: Low voltage.
84. lx: Lux, the SI-derived unit of illuminance equal to one lumen per square meter.
85. m: Meter.
86. MCC: Motor-control center.
87. MDC: Modular data center.
88. MG set: Motor-generator set.
89. MIDI: Musical instrument digital interface.
90. MLO: Main lugs only.
91. MPEG-2: Abbreviation for the ISO/IEC Moving Picture Experts Group's standard for generic coding of moving pictures and associated audio information (ISO/IEC 13818) released in 1995 and used for most over-the-air and satellite broadcast digital television.
92. MPEG-4: Abbreviation for the ISO/IEC Moving Picture Experts Group's standard framework for coding of audio-visual objects (ISO/IEC 14496) released in 1999, with digital rights management and more advanced compression algorithms than MPEG-2.
93. MOV: Metal-oxide varistor.
94. MV: Medium voltage.
95. MVA: Megavolt-ampere.
96. mW: Milliwatt.
97. MW: Megawatt.
98. MWh: Megawatt-hour.
99. N.C.: Normally closed.
100. Ni-Cd: Nickel-cadmium.
101. Ni-MH: Nickel-metal hydride.
102. NIU: Network interface unit.
103. N.O.: Normally open.
104. NPT: National (American) standard pipe taper.
105. OCPD: Overcurrent protective device.
106. ONT: Optical network terminal.
107. PC: Personal computer.
108. PCS: Power conversion system.
109. PCU: Power-conditioning unit.
110. PF or pf: Power factor.
111. PHEV: Plug-in hybrid electric vehicle.
112. PLC: Programmable logic controller.
113. PLFA: Power-limited fire alarm.
114. PoE: Power over Ethernet.
115. POTS: Plain old telephone service. See "public switched telephone network" definition.
116. PSTN: Public switched telephone network.
117. PV: Photovoltaic.
118. PVC: Polyvinyl chloride.
119. pW: Picowatt.
120. RFI: (electrical) Radio-frequency interference; (contract) Request for interpretation.
121. RMS or rms: Root-mean-square.

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122. RPM or rpm: Revolutions per minute.
123. SCADA: Supervisory control and data acquisition.
124. SCCR: Short-circuit current rating.
125. SCR: Silicon-controlled rectifier.
126. SPD: Surge protective device.
127. sq.: Square.
128. SWD: Switching duty.
129. TCP/IP: Transmission Control Protocol/Internet Protocol.
130. TEFC: Totally enclosed fan-cooled.
131. TR: Tamper resistant.
132. TVSS: Transient voltage surge suppressor.
133. UL: (standards) UL Standards & Engagement Inc.; (product categories) UL, LLC.
134. UL CCN: UL Category Control Number.
135. UPS: Uninterruptible power supply.
136. USB: Universal serial bus.
137. UV: Ultraviolet.
138. V: Volt, unit of electromotive force.
139. V(ac): Volt, alternating current.
140. V(dc): Volt, direct current.
141. VA: Volt-ampere, unit of complex electrical power.
142. VAR: Volt-ampere reactive, unit of reactive electrical power.
143. VFC: Variable-frequency controller.
144. VOM: Volt-ohm-multimeter.
145. VoIP: Voice over Internet Protocol.
146. VPN: Virtual private network.
147. VRLA: Valve regulated lead acid; also called "sealed lead acid (SLA)" or "valve regulated sealed lead acid."
148. W: Watt, unit of real electrical power.
149. WAN: Wide area network.
150. Wh: Watt-hour, unit of electrical energy usage.
151. WPT: Wireless power transfer.
152. WPTE: Wireless power transfer equipment.
153. WR: Weather resistant.

B. Abbreviations and Acronyms for Electrical Raceway Types:

1. EMT: Electrical metallic tubing.
2. EMT-A: Aluminum electrical metallic tubing.
3. EMT-S: Steel electrical metallic tubing.
4. EMT-SS: Stainless steel electrical metallic tubing.
5. ENT: Electrical nonmetallic tubing.
6. EPEC: Electrical HDPE underground conduit (thin wall).
7. EPEC-A: Type A electrical HDPE underground conduit.
8. EPEC-B: Type B electrical HDPE underground conduit.
9. ERMC: Electrical rigid metal conduit.
10. ERMC-A: Aluminum electrical rigid metal conduit.
11. ERMC-S: Steel electrical rigid metal conduit.
12. ERMC-S-G: Galvanized-steel electrical rigid metal conduit.
13. ERMC-S-PVC: PVC-coated-steel electrical rigid metal conduit.
14. ERMC-SS: Stainless steel electrical rigid metal conduit.
15. FMC: Flexible metal conduit.

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16. FMC-A: Aluminum flexible metal conduit.
17. FMC-S: Steel flexible metal conduit.
18. FMT: Steel flexible metallic tubing.
19. FNMC: Flexible nonmetallic conduit. See "LFNC."
20. HDPE: HDPE underground conduit (thick wall).
21. HDPE-40: Schedule 40 HDPE underground conduit.
22. HDPE-80: Schedule 80 HDPE underground conduit.
23. IMC: Steel electrical intermediate metal conduit.
24. LFMC: Liquidtight flexible metal conduit.
25. LFMC-A: Aluminum liquidtight flexible metal conduit.
26. LFMC-S: Steel liquidtight flexible metal conduit.
27. LFMC-SS: Stainless steel liquidtight flexible metal conduit.
28. LFNC: Liquidtight flexible nonmetallic conduit.
29. LFNC-A: Layered (Type A) liquidtight flexible nonmetallic conduit.
30. LFNC-B: Integral (Type B) liquidtight flexible nonmetallic conduit.
31. LFNC-C: Corrugated (Type C) liquidtight flexible nonmetallic conduit.
32. PVC: Rigid PVC conduit.
33. PVC-40: Schedule 40 rigid PVC conduit.
34. PVC-80: Schedule 80 rigid PVC Conduit.
35. PVC-A: Type A rigid PVC concrete-encased conduit.
36. PVC-EB: Type EB rigid PVC concrete-encased underground conduit.
37. RGS: See ERMCM-S-G.
38. RMC: See ERMCM.
39. RTRC: Reinforced thermosetting resin conduit.
40. RTRC-AG: Low-halogen, aboveground reinforced thermosetting resin conduit.
41. RTRC-AG-HW: Heavy wall, low-halogen, aboveground reinforced thermosetting resin conduit.
42. RTRC-AG-SW: Standard wall, low-halogen, aboveground reinforced thermosetting resin conduit.
43. RTRC-AG-XW: Extra heavy wall, low-halogen, aboveground reinforced thermosetting resin conduit.
44. RTRC-BG: Low-halogen, belowground reinforced thermosetting resin conduit.

C. Abbreviations and Acronyms for Electrical Single-Conductor and Multiple-Conductor Cable Types:

1. AC: Armored cable.
2. CATV: Coaxial general-purpose cable.
3. CATVP: Coaxial plenum cable.
4. CATVR: Coaxial riser cable.
5. CI: Circuit integrity cable.
6. CL2: Class 2 cable.
7. CL2P: Class 2 plenum cable.
8. CL2R: Class 2 riser cable.
9. CL2X: Class 2 cable, limited use.
10. CL3: Class 3 cable.
11. CL3P: Class 3 plenum cable.
12. CL3R: Class 3 riser cable.
13. CL3X: Class 3 cable, limited use.
14. CM: Communications general-purpose cable.
15. CMG: Communications general-purpose cable.

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16. CMP: Communications plenum cable.
17. CMR: Communications riser cable.
18. CMUC: Under-carpet communications wire and cable.
19. CMX: Communications cable, limited use.
20. DG: Distributed generation cable.
21. FC: Flat cable.
22. FCC: Flat conductor cable.
23. FPL: Power-limited fire-alarm cable.
24. FPLP: Power-limited fire-alarm plenum cable.
25. FPLR: Power-limited fire-alarm riser cable.
26. IGS: Integrated gas spacer cable.
27. ITC: Instrumentation tray cable.
28. ITC-ER: Instrumentation tray cable, exposed run.
29. MC: Metal-clad cable.
30. MC-HL: Metal-clad cable, hazardous location.
31. MI: Mineral-insulated, metal-sheathed cable.
32. MTW: (machine tool wiring) Moisture-, heat-, and oil-resistant thermoplastic cable.
33. MV: Medium-voltage cable.
34. NM: Nonmetallic sheathed cable.
35. NMC: Nonmetallic sheathed cable with corrosion-resistant nonmetallic jacket.
36. NMS: Nonmetallic sheathed cable with signaling, data, and communications conductors, plus power or control conductors.
37. NPLF: Non-power-limited fire-alarm circuit cable.
38. NPLFP: Non-power-limited fire-alarm circuit cable for environmental air spaces.
39. NPLFR: Non-power-limited fire-alarm circuit riser cable.
40. NUCC: Nonmetallic underground HDPE conduit with conductors.
41. OFC: Conductive optical fiber general-purpose cable.
42. OFCG: Conductive optical fiber general-purpose cable.
43. OFCP: Conductive optical fiber plenum cable.
44. OFCR: Conductive optical fiber riser cable.
45. OFN: Nonconductive optical fiber general-purpose cable.
46. OFNG: Nonconductive optical fiber general-purpose cable.
47. OFNP: Nonconductive optical fiber plenum cable.
48. OFNR: Nonconductive optical fiber riser cable.
49. P: Marine shipboard cable.
50. PLTC: Power-limited tray cable.
51. PLTC-ER: Power-limited tray cable, exposed run.
52. PV: Photovoltaic cable.
53. RHH: (high heat) Thermoset rubber, heat-resistant cable.
54. RHW: Thermoset rubber, moisture-resistant cable.
55. SA: Silicone rubber cable.
56. SE: Service-entrance cable.
57. SER: Service-entrance cable, round.
58. SEU: Service-entrance cable, flat.
59. SIS: Thermoset cable for switchboard and switchgear wiring.
60. TBS: Thermoplastic cable with outer braid.
61. TC: Tray cable.
62. TC-ER: Tray cable, exposed run.
63. TC-ER-HL: Tray cable, exposed run, hazardous location.
64. THW: Thermoplastic, heat- and moisture-resistant cable.
65. THHN: Thermoplastic, heat-resistant cable with nylon jacket outer sheath.

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66. THHW: Thermoplastic, heat- and moisture-resistant cable.
67. THWN: Thermoplastic, moisture- and heat-resistant cable with nylon jacket outer sheath.
68. TW: Thermoplastic, moisture-resistant cable.
69. UF: Underground feeder and branch-circuit cable.
70. USE: Underground service-entrance cable.
71. XHH: Cross-linked polyethylene, heat-resistant cable.
72. XHHW: Cross-linked polyethylene, heat- and moisture-resistant cable.

D. Definitions:

1. 8-Position 8-Contact (8P8C) Modular Jack: An unkeyed jack with up to eight contacts commonly used to terminate twisted pair and multiconductor Ethernet cable. Also called a "TIA-1096 miniature 8-position series jack" (8PSJ), or an "IEC 8877 8-pole jack."
 - a. Be careful when suppliers use "RJ45" generically. Obsolete RJ45 jacks used for analog telephone cables have rejection keys. 8P8C jacks used for digital telephone cables and Ethernet cables do not have rejection keys.
2. Basic Impulse Insulation Level (BIL): Reference insulation level expressed in impulse crest voltage with a standard wave not longer than 1.5 times 50 microseconds and 1.5 times 40 microseconds.
3. Cable: In accordance with NIST NBS Circular 37 and IEEE standards, in the United States for the purpose of interstate commerce, the definition of "cable" is (1) a conductor with insulation, or a stranded conductor with or without insulation (single-conductor cable); or (2) a combination of conductors insulated from one another (multiple-conductor cable).
4. Communications Jack: A fixed connecting device designed for insertion of a communications cable plug.
5. Communications Outlet: One or more communications jacks, or cables and plugs, mounted in a box or ring, with a suitable protective cover.
6. Conductor: In accordance with NIST NBS Circular 37 and IEEE standards, in the United States for the purpose of interstate commerce, the definition of "conductor" is (1) a wire or combination of wires not insulated from one another, suitable for carrying an electric current; (2) (National Electrical Safety Code) a material, usually in the form of wire, cable, or bar, suitable for carrying an electric current; or (3) (general) a substance or body that allows a current of electricity to pass continuously along it.
7. Conduit: A structure containing one or more duct raceways.
8. Designated Seismic System: An architectural, electrical, or mechanical system and its components for which the component importance factor is greater than 1.0 when determined in accordance with Section 018123 "Facility Seismic and Wind Criteria."
9. Direct Buried: Installed underground without encasement in concrete or other protective material.
10. Duct Bank: An arrangement of conduit providing one or more continuous duct raceways between two points.
11. Duct Raceway: A single enclosed raceway for conductors or cable.
12. Electrical Service: The conductors and equipment for delivering electric energy from the serving utility to the wiring system of the premises served.
13. Enclosure: The case or housing of an apparatus, or the fence or wall(s) surrounding an installation, to prevent personnel from accidentally contacting energized parts or to protect the equipment from physical damage. Types of enclosures and enclosure covers include the following:

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- a. Cabinet: An enclosure that is designed for either surface mounting or flush mounting and is provided with a frame, mat, or trim in which a swinging door or doors are or can be hung.
- b. Concrete Box: A box intended for use in poured concrete.
- c. Conduit Body: A means for providing access to the interior of a conduit or tubing system through one or more removable covers at a junction or terminal point. In the United States, conduit bodies are listed in accordance with outlet box requirements.
- d. Conduit Box: A box having threaded openings or knockouts for conduit, EMT, or fittings.
- e. Cover Plate: A cover designed for protecting wiring devices installed in flush-mounted device boxes while permitting their safe operation; also called a faceplate or wallplate.
- f. Cutout Box: An enclosure designed for surface mounting that has swinging doors or covers secured directly to and telescoping with the walls of the enclosure.
- g. Device Box: A box with provisions for mounting a wiring device directly to the box.
- h. Extension Ring: A ring intended to extend the sides of an outlet box or device box to increase the box depth, volume, or both.
- i. Floor Box: A box mounted in the floor intended for use with a floor box cover and other components to complete the floor box enclosure.
- j. Floor-Mounted Enclosure: A floor box and floor box cover assembly with means to mount in the floor that is sealed against the entrance of scrub water at the floor level.
- k. Floor Nozzle: An enclosure used on a wiring system, intended primarily as a housing for a receptacle, provided with a means, such as a collar, for surface-mounting on a floor, which may or may not include a stem to support it above the floor level, and is sealed against the entrance of scrub water at the floor level.
- l. Junction Box: A box with a blank cover that joins different runs of raceway or cable and provides space for connection and branching of the enclosed conductors.
- m. Outlet Box: A box that provides access to a wiring system having pryout openings, knockouts, threaded entries, or hubs in either the sides or the back, or both, for the entrance of conduit, conduit or cable fittings, or cables, with provisions for mounting an outlet box cover, but without provisions for mounting a wiring device directly to the box.
- n. Pedestal Floor Box Cover: A floor box cover that, when installed as intended, provides a means for typically vertical or near-vertical mounting of receptacle outlets above the floor's finished surface.
- o. Pull Box: A box with a blank cover that joins different runs of raceway and provides access for pulling or replacing the enclosed cables or conductors.
- p. Raised-Floor Box: A floor box intended for use in raised floors.
- q. Recessed Access Floor Box: A floor box with provisions for mounting wiring devices below the floor surface.
- r. Recessed Access Floor Box Cover: A floor box cover with provisions for passage of cords to recessed wiring devices mounted within a recessed floor box.
- s. Ring: A sleeve, which is not necessarily round, used for positioning a recessed wiring device flush with the plaster, concrete, drywall, or other wall surface.
- t. Ring Cover: A box cover, with raised center portion to accommodate a specific wall or ceiling thickness, for mounting wiring devices or luminaires flush with the surface.

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- u. Termination Box: An enclosure designed for installation of termination base assemblies consisting of bus bars, terminal strips, or terminal blocks with provision for wire connectors to accommodate incoming or outgoing conductors, or both.
14. Emergency Systems: Those systems legally required and classed as emergency by municipal, state, federal, or other codes, or by any governmental agency having jurisdiction that are designed to ensure continuity of lighting, electrical power, or both, to designated areas and equipment in the event of failure of the normal supply for safety to human life.
 15. Fault Limited: Providing or being served by a source of electrical power that is limited to not more than 100 W when tested in accordance with UL 62368-1.
 - a. The term "fault limited" is intended to encompass most Class 1, 2, and 3 power-limited sources complying with Article 725 of NFPA 70; Class ES1 and ES2 electrical energy sources that are Class PS1 electrical power sources (e.g., USB); and Class ES3 electrical energy sources that are Class PS1 and PS2 electrical power sources (e.g., PoE). See UL 62368-1 for discussion of classes of electrical energy sources and classes of electrical power sources.
 16. High-Performance Building: A building that integrates and optimizes on a life-cycle basis all major high-performance attributes, including energy conservation, environment, safety, security, durability, accessibility, cost-benefit, productivity, sustainability, functionality, and operational considerations.
 17. Jacket: A continuous nonmetallic outer covering for conductors or cables.
 18. Luminaire: A complete lighting unit consisting of a light source such as a lamp, together with the parts designed to position the light source and connect it to the power supply. It may also include parts to protect the light source or the ballast or to distribute the light.
 19. Mode: The terms "Active Mode," "Off Mode," and "Standby Mode" are used as defined in the Energy Independence and Security Act (EISA) of 2007.
 20. Multi-Outlet Assembly: A type of surface, flush, or freestanding raceway designed to hold conductors, receptacles, and switches, assembled in the field or at the factory.
 21. One-Line Diagram: A diagram that shows, by means of single lines and graphic symbols, the course of an electric circuit or system of circuits and the component devices or parts used therein. Also called "single-line diagram."
 22. Plenum: A compartment or chamber to which one or more air ducts are connected and that forms part of the air distribution system.
 23. Protective Device: A device that senses when an abnormal current flow, abnormal voltage potential, or other abnormal electrical waveform exists and then disconnects the affected portion of the circuit from the system. Common protective devices include fuses, circuit breakers, relays, ground-fault circuit interrupters, and arc-fault circuit interrupters.
 24. Public Switched Telephone Network (PSTN): Analog telephone technology that uses twisted pair cables from a telephone-provider central office for the transmission medium. "PSTN" refers to the telephone network; "POTS" refers to the individual subscriber line.
 25. Receptacle: A fixed connecting device arranged for insertion of a power cord plug. Also called a power jack.
 26. Receptacle Outlet: One or more receptacles mounted in a box with a suitable protective cover.
 27. Sheath: A continuous metallic covering for conductors or cables.
 28. UL Category Control Number (CCN): An alphabetic or alphanumeric code used to identify product categories covered by UL's Listing, Classification, and Recognition Services.

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29. Voice over Internet Protocol (VoIP): Digital telephone packet technology that uses the internet for its transmission medium.
30. Voltage Class: For specified circuits and equipment, voltage classes are defined as follows:
 - a. Control Voltage: Having electromotive force between any two conductors, or between a single conductor and ground, that is supplied from a battery or other Class 2 or Class 3 power-limited source.
 - b. Line Voltage: (1) (controls) Designed to operate using the supplied low-voltage power without transformation. (2) (transmission lines, transformers, SPDs) The line-to-line voltage of the supplying power system.
 - c. Extra-Low Voltage (ELV): Not having electromotive force between any two conductors, or between a single conductor and ground, exceeding 30 V(ac rms), 42 V(ac peak), or 60 V(dc).
 - d. Low Voltage (LV): Having electromotive force between any two conductors, or between a single conductor and ground, that is rated above 30 V but not exceeding 1000 V.
 - e. Medium Voltage (MV): Having electromotive force between any two conductors, or between a single conductor and ground, that is rated about 1 kV but not exceeding 69 kV.
 - f. High Voltage: (1) (circuits) Having electromotive force between any two conductors, or between a single conductor and ground, that is rated above 69 kV but not exceeding 230 kV. (2) (safety) Having sufficient electromotive force to inflict bodily harm or injury.
31. Wire: In accordance with NIST NBS Circular 37 and IEEE standards, in the United States for the purpose of interstate commerce, the definition of "wire" is a slender rod or filament of drawn metal. A group of small wires used as a single wire is properly called a "stranded wire." A wire or stranded wire covered with insulation is properly called an "insulated wire" or a "single-conductor cable." Nevertheless, when the context indicates that the wire is insulated, the term "wire" will be understood to include the insulation.

1.3 COORDINATION

- A. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted under the following conditions:
 1. Notify Architect and Owner no fewer than seven days in advance of proposed interruption of electrical service.
 2. Do not proceed with interruption of electrical service without Owner's written permission.
 3. Coordinate interruption with systems impacted by outage including, but not limited to, the following:
 - a. Emergency lighting.
 - b. Fire-alarm systems.

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1.4 PREINSTALLATION MEETINGS

- A. Electrical Preconstruction Conference: Schedule conference with Architect and Owner, not later than 10 days after Notice to Proceed. Agenda topics include, but are not limited to, the following:
 - 1. Electrical installation schedule.

1.5 ACTION SUBMITTALS

- A. Submittals must comply with the requirements of the Construction Contract Clauses, Section 013300 "Submittal Procedures" and the individual Sections specifying the work.
- B. Coordination Drawings for Ceiling Areas: Where indicated on drawings, provide reflected ceiling plan(s), supplemented by sections and other details, drawn to scale, in accordance with Section 013100 "Project Management and Coordination," on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Suspended ceiling components.
 - 2. Structural members to which equipment and suspension systems will be attached.
 - 3. Size and location of access panels on ceilings.
 - 4. Elevation, size, and route of sprinkler piping.
 - 5. Elevation, size, and route of plumbing piping.
 - 6. Elevation, size, and route of ductwork.
 - 7. Elevation, size, and route of cable tray.
 - 8. Elevation, size, and route of conduit.
 - 9. Elevation and size of wall-mounted and ceiling-mounted equipment.
 - 10. Access panels.
 - 11. Sprinklers.
 - 12. Air inlets and outlets.
 - 13. Control modules.
 - 14. Luminaires.
 - 15. Communications devices.
 - 16. Speakers.
 - 17. Security devices.
 - 18. Fire-alarm devices.
 - 19. Indicate clear dimensions for maintenance access in front of equipment.
 - 20. Indicate dimensions of fully open access doors.
- C. Coordination Drawings for Conduit and Cable Tray Routing: Routing plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of items involved:
 - 1. Structural members in paths of conduit groups with common supports.
 - 2. HVAC and plumbing items and architectural features in paths of conduit groups with common supports.
 - 3. Equipment racks.
 - 4. Light fixtures.
 - 5. Architectural elements.

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1.6 INFORMATIONAL SUBMITTALS

- A. Submittals must comply with the requirements of the Construction Contract Clauses, Section 013300 "Submittal Procedures" and the individual Sections specifying the work.
- B. Electrical Installation Schedule: At preconstruction meeting, and periodically thereafter as dates change, provide schedule for electrical installation Work to Owner and Architect including, but not limited to, milestone dates for the following activities:
 - 1. Submission of specified coordination drawings.
 - 2. Submission of action submittals specified in Division 26.
 - 3. Preinstallation meetings specified in Division 26.
 - 4. Closing of walls and ceilings containing electrical Work.
 - 5. System startup, testing, and commissioning activities for emergency lighting.
 - 6. Requests for inspections by authorities having jurisdiction.

1.7 CLOSEOUT SUBMITTALS

- A. Submittals must comply with the requirements of the Construction Contract Clauses, Section 013300 "Submittal Procedures" and the individual Sections specifying the work.
- B. Operation and Maintenance Data:
 - 1. Provide emergency operation, normal operation, and preventive maintenance manuals for each system, equipment, and device.
 - 2. Include the following information:
 - a. Manufacturer's operating specifications.
 - b. User's guides for software and hardware.
 - c. Schedule of maintenance material items recommended to be stored at the Project site.
 - d. Detailed instructions covering operation under both normal and abnormal conditions.
 - e. Manufacturer's instructions for setting field-adjustable components.
 - f. EPSS: Manufacturer's system checklists, maintenance schedule, and maintenance log sheets in accordance with NFPA 110.

PART 2 - PRODUCTS

2.1 SUBSTITUTION LIMITATIONS FOR ELECTRICAL EQUIPMENT

- A. Substitution requests for electrical equipment will be entertained under the following conditions:
 - 1. Substitution requests may be submitted for consideration prior to the Electrical Preconstruction Conference if accompanied by value analysis data indicating that substitution will comply with the Project performance requirements while significantly increasing value for Owner throughout life of facility.

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PART 3 - EXECUTION

3.1 INSTALLATION OF ELECTRICAL WORK

- A. Unless more stringent requirements are specified in the Contract Documents or manufacturers' written instructions, comply with NFPA 70 and NECA NEIS 1 for installation of electrical Work on the Project. Consult Architect for resolution of conflicting requirements.

END OF SECTION

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Copper building wire.
2. Metal-clad cable, Type MC.
3. Connectors and splices.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.

1.2 ACTION SUBMITTALS

- A. Submittals must comply with the requirements of the Construction Contract Clauses, Section 013300 "Submittal Procedures" and the individual Sections specifying the work.
- B. Product Data: For each type of product.
- C. Product Schedule: Indicate type, use, location, and termination locations.

1.3 INFORMATIONAL SUBMITTALS

- A. Submittals must comply with the requirements of the Construction Contract Clauses, Section 013300 "Submittal Procedures" and the individual Sections specifying the work.
- B. Field quality-control reports.

PART 2 - PRODUCTS

2.1 COPPER BUILDING WIRE

- A. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.
- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 1. Alpha Wire Company.
 2. American Bare Conductor.

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3. Belden Inc.
4. Cerro Wire LLC.
5. Encore Wire Corporation.
6. General Cable; Prysmian Group North America.
7. Okonite Company (The).
8. Service Wire Co.
9. Southwire Company, LLC.
10. WESCO.

C. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
2. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."

D. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors.

E. Conductor Insulation:

1. Type RHH and Type RHW-2: Comply with UL 44.
2. Type TC-ER: Comply with NEMA WC 70/ICEA S-95-658 and UL 1277.
3. Type THHN and Type THWN-2: Comply with UL 83.
4. Type THW and Type THW-2: Comply with NEMA WC-70/ICEA S-95-658 and UL 83.
5. Type XHHW-2: Comply with UL 44.

2.2 METAL-CLAD CABLE, TYPE MC

A. Description: A factory assembly of one or more current-carrying insulated conductors in an overall metallic sheath.

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. AFC Cable Systems; Atkore International.
2. Alpha Wire Company.
3. American Bare Conductor.
4. Belden Inc.
5. Encore Wire Corporation.
6. General Cable; Prysmian Group North America.
7. Okonite Company (The).
8. Service Wire Co.
9. Southwire Company, LLC.
10. WESCO.

C. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
2. Comply with UL 1569.

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3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."

D. Circuits:

1. Single circuit with color-coded conductors.

- E. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors.

- F. Ground Conductor: Insulated.

G. Conductor Insulation:

1. Type TFN/THHN/THWN-2: Comply with UL 83.
2. Type XHHW-2: Comply with UL 44.

- H. Armor: Steel, interlocked.

2.3 CONNECTORS AND SPLICES

- A. Description: Factory-fabricated connectors, splices, and lugs of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.

- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. 3M Electrical Products.
2. ABB, Electrification Business.
3. AFC Cable Systems; Atkore International.
4. Gardner Bender.
5. Hubbell Utility Solutions; Hubbell Incorporated.
6. Ideal Industries, Inc.
7. ILSCO.
8. NSi Industries LLC.
9. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
10. Service Wire Co.
11. TE Connectivity Ltd.

- C. Lugs: One piece, seamless, designed to terminate conductors specified in this Section.

1. Material: Copper.
2. Type: Two hole with long barrels.
3. Termination: Compression.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

A. Branch Circuits:

1. Copper. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

A. Exposed Branch Circuits: Type THHN/THWN-2, single conductors in raceway.

B. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN/THWN-2, single conductors in raceway or MC-Cable.

3.3 INSTALLATION, GENERAL

A. Conceal cables within conduits in finished walls and drywall. Provide cables within conduits above accessible ceilings, unless otherwise indicated.

B. Complete raceway installation between conductor and cable termination points according to Section 260533 "Raceways and Boxes for Electrical Systems" prior to pulling conductors and cables.

C. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.

D. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.

E. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."

F. Use a maximum length of six feet of MC-Cable for fixture whips and connections to mechanical equipment.

3.4 CONNECTIONS

A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.

B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inch of slack.

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- D. Comply with requirements in Section 284621.11 "Addressable Fire-Alarm Systems" for connecting, terminating, and identifying wires and cables.

3.5 IDENTIFICATION

- A. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."
- B. Identify each spare conductor at each end with identity number and location of other end of conductor, and identify as spare conductor.

3.6 FIRESTOPPING

- A. Provide firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly according to Section 078413 "Penetration Firestopping."

3.7 FIELD QUALITY CONTROL

- A. Tests and Inspections:
 - 1. After installing conductors and cables and before electrical circuitry has been energized, test conductors feeding the following critical equipment and services for compliance with requirements:
 - a. Emergency lighting.
 - 2. Perform each of the following visual and electrical tests:
 - a. Inspect exposed sections of conductor and cable for physical damage and correct connection according to the single-line diagram.
 - b. Test bolted connections for high resistance using one of the following:
 - 1) A low-resistance ohmmeter.
 - 2) Calibrated torque wrench.
 - 3) Thermographic survey.
 - c. Inspect compression-applied connectors for correct cable match and indentation.
 - d. Inspect for correct identification.
 - e. Inspect cable jacket and condition.
 - f. Insulation-resistance test on each conductor for ground and adjacent conductors. Apply a potential of 500 V(dc) for 300 V rated cable and 1000 V(dc) for 600 V rated cable for a one-minute duration.
 - g. Continuity test on each conductor and cable.
 - h. Uniform resistance of parallel conductors.
- B. Cables will be considered defective if they do not pass tests and inspections.

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- C. Prepare test and inspection reports to record the following:
1. Procedures used.
 2. Results that comply with requirements.
 3. Results that do not comply with requirements, and corrective action taken to achieve compliance with requirements.

END OF SECTION

SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Grounding and bonding conductors.
 2. Grounding and bonding connectors.

1.2 ACTION SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Product Data: For each type of product.
- C. Field quality-control reports.

PART 2 - PRODUCTS

2.1 GROUNDING AND BONDING CONDUCTORS

- A. Equipment Grounding Conductor:
1. General Characteristics: 600 V, THHN/THWN-2 or THWN-2, copper or tinned-copper wire or cable, green color, in accordance with Section 260519 "Low-Voltage Electrical Power Conductors and Cables."
- B. ASTM - Bare Copper Grounding and Bonding Conductor:
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ERICO; brand of nVent Electrical plc.
 - b. Harger Lightning & Grounding; business of Harger, Inc.
 2. Referenced Standards: Complying with one or more of the following:
 - a. Soft or Annealed Copper Wire: ASTM B3.
 - b. Concentric-Lay Stranded Copper Conductor: ASTM B8.
 - c. Tin-Coated Soft or Annealed Copper Wire: ASTM B33.

2.2 GROUNDING AND BONDING CONNECTORS

- A. Source Limitations: Obtain products from single manufacturer.
- B. Performance Criteria:
 - 1. Regulatory Requirements:
 - a. Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
 - 2. Listing Criteria:
 - a. Grounding and Bonding Equipment: UL CCN KDER; including UL 467.
 - b. Grounding and Bonding Equipment for Communications: UL CCN KDSH; including UL 467.
- C. UL KDER - Crimped Lug Pressure-Type Grounding and Bonding Busbar Terminal:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Harger Lightning & Grounding; business of Harger, Inc.
 - c. ILSCO.
 - d. Burndy; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
- D. UL KDER - Crimped Pressure-Type Grounding and Bonding Cable Connector:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Burndy; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - c. ILSCO.
 - d. allG Fabrication (formerly ALT).
 - 2. General Characteristics: Crimp-and-compress connectors that bond to conductor when connector is compressed around conductor.
 - a. Tinned copper, C and H shaped.
- E. UL KDER - Split-Bolt Pressure-Type Grounding and Bonding Cable Connector:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.

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- b. ERICO; brand of nVent Electrical plc.
 - c. Greaves Corp.; Essex Products Group, Inc.
 - d. allG Fabrication (formerly ALT).
 - e. Burndy; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
2. General Characteristics: Bolts that surround cable and bond to cable under compression when nut is tightened.
 - a. Tinned copper.

PART 3 - EXECUTION

3.1 SELECTION OF GROUNDING AND BONDING PRODUCTS

A. Grounding and Bonding Conductors:

1. Provide solid conductor for 8 AWG and smaller, and stranded conductors for 6 AWG and larger unless otherwise indicated.

3.2 INSTALLATION OF GROUNDING AND BONDING

A. Comply with manufacturer's published instructions.

B. Special Techniques:

1. Grounding and Bonding Conductors:

- a. Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.

2. Equipment Grounding and Bonding:

- a. Install insulated equipment grounding conductors with feeders and branch circuits.
- b. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
 - 1) Feeders and branch circuits.
 - 2) Lighting circuits.
 - 3) Receptacle circuits.
 - 4) Single-phase motor and appliance branch circuits.
 - 5) Flexible raceway runs.

3.3 FIELD QUALITY CONTROL FOR GROUNDING AND BONDING

A. Tests and Inspections:

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1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
2. Inspect physical and mechanical condition. Verify tightness of accessible, bolted, electrical connections with calibrated torque wrench in accordance with manufacturer's published instructions.

B. Collect, assemble, and submit test and inspection reports.

3.4 PROTECTION

- A. After installation, protect grounding and bonding cables and equipment from construction activities. Remove and replace items that are contaminated, defaced, damaged, or otherwise caused to be unfit for use prior to acceptance by Designer.

END OF SECTION

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Support, anchorage, and attachment components.

1.2 ACTION SUBMITTALS

A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.

B. Product Data:

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for the following:
 - a. Slotted support systems, hardware, and accessories.
 - b. Clamps.
 - c. Hangers.
 - d. Sockets.
 - e. Eye nuts.
 - f. Fasteners.
 - g. Anchors.
 - h. Saddles.
 - i. Brackets.
2. Include rated capacities and furnished specialties and accessories.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame Rating: Class 1.
2. Self-extinguishing according to ASTM D635.

2.2 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Preformed steel channels and angles with minimum 13/32 inch diameter holes at a maximum of 8 inch on center in at least one surface.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Allied Tube & Conduit; Atkore International.
 - c. CADDY; brand of nVent Electrical plc.
 - d. Cooper B-line; brand of Eaton, Electrical Sector.
 - e. Flex-Strut Inc.
 - f. G-Strut.
 - g. Gripple Inc.
 - h. Haydon Corporation.
 - i. MIRO Industries Inc.
 - j. Metal Ties Innovation.
 - k. Rocket Rack; Robroy Industries.
 - l. Unistrut; Atkore International.
 - m. Wesanco, Inc.
 2. Standard: Comply with MFMA-4 factory-fabricated components for field assembly.
 3. Material for Channel, Fittings, and Accessories: Galvanized steel.
 4. Channel Width: Selected for applicable load criteria.
 5. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
 6. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.
 7. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
 8. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Conduit and Cable Support Devices: Steel hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- C. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
1. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened portland cement concrete, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 - a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1) Cooper B-line; brand of Eaton, Electrical Sector.
 - 2) Empire Industries, Inc.
 - 3) Hilti, Inc.
 - 4) ITW Ramset/Red Head; Illinois Tool Works, Inc.
 - 5) MKT Fastening, LLC.

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2. Concrete Inserts: Steel or malleable-iron, slotted support system units are similar to MSS Type 18 units and comply with MFMA-4 or MSS SP-58.
3. Clamps for Attachment to Steel Structural Elements: MSS SP-58 units are suitable for attached structural element.
4. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM F3125/F3125M, Grade A325.
5. Toggle Bolts: All steel springhead type.
6. Hanger Rods: Threaded steel.

PART 3 - EXECUTION

3.1 SELECTION

- A. Comply with the following standards for selection and installation of hangers and supports, except where requirements on Drawings or in this Section are stricter:
 1. NECA NEIS 101
 2. NECA NEIS 102.
- B. Comply with requirements for raceways specified in Section 260533.13 "Conduits for Electrical Systems."
- C. Comply with requirements for boxes specified in Section 260533.16 "Boxes and Covers for Electrical Systems."
- D. Maximum Support Spacing and Minimum Hanger Rod Size for Raceways: Space supports for EMT, and ERMC as required by NFPA 70. Minimum rod size must be 1/4 inch in diameter.
- E. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2 inch and smaller raceways serving branch circuits and communication systems above suspended ceilings, and for fastening raceways to trapeze supports.

3.2 INSTALLATION OF SUPPORTS

- A. Comply with NECA NEIS 101 for installation requirements except as specified in this article.
- B. Raceway Support Methods: In addition to methods described in NECA NEIS 1, EMT and ERMC may be supported by openings through structure members, in accordance with NFPA 70.
- C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination must be weight of supported components plus 200 lb.
- D. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:

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1. To Wood: Fasten with lag screws or through bolts.
 2. To New Concrete: Bolt to concrete inserts.
 3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
 4. To Existing Concrete: Expansion anchor fasteners.
 5. To Light Steel: Sheet metal screws.
 6. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate.
- E. Drill holes for expansion anchors in concrete at locations and to depths that avoid the need for reinforcing bars.

3.3 PAINTING

- A. Touchup:
1. Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
 - a. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils.
 2. Comply with requirements in Section 099113 "Exterior Painting" and Section 099123 "Interior Painting" for cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint on miscellaneous metal.
- B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A780.

END OF SECTION

SECTION 260533.13 - CONDUITS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Type EMT duct raceways and elbows.
2. Type FMC duct raceways.
3. Type LFMC duct raceways.
4. Fittings for conduit, tubing, and cable.
5. Joint compounds.
6. Solvent cements.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" specifies additional coordination, scheduling, sequencing, submittal, and installation requirements applicable to the Work for electrical, communications, and electronic safety and security systems on the Project, including wiring methods.
2. Section 260519 "Low-Voltage for Electrical Power Conductors and Cables" specifies nonmetallic underground conduit with conductors (Type NUCC).
3. Section 260529 "Hangers and Supports for Electrical Systems" specifies conduit hangers and supports referenced by this Section.
4. Section 260553 "Identification for Electrical Systems" specifies electrical equipment labels.

1.2 REFERENCES

A. Abbreviations and Acronyms for Electrical Raceway Types:

1. EMT: Electrical metallic tubing.
2. EMT-S: Steel electrical metallic tubing.
3. FMC: Flexible metal conduit.
4. FMC-S: Steel flexible metal conduit.
5. LFMC: Liquidtight flexible metal conduit.
6. LFMC-S: Steel liquidtight flexible metal conduit.

B. Definitions:

1. Conduit: A structure containing one or more duct raceways.
2. Duct Raceway: A single enclosed raceway for conductors or cable.

1.3 ACTION SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and

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the individual sections specifying the work.

- B. Product Data: For each type of product.
- C. Field quality-control reports.

1.4 INFORMATIONAL SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Manufacturer's published instructions.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Products or components listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.

2.2 TYPE EMT DUCT RACEWAYS AND ELBOWS

- A. UL FJMX - Steel Electrical Metal Tubing (EMT-S) and Elbows:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Allied Tube & Conduit; Atkore International.
 - b. Calconduit; Atkore International.
 - c. Emerson Electric Co., Automation Solutions.
 - d. Picoma; Zekelman Industries.
 - e. Republic Conduit; Nucor Corporation, Nucor Tubular Products.
 - f. Topaz Lighting & Electric.
 - g. Western Tube; Zekelman Industries.
 - h. Wheatland Tube; Zekelman Industries.
 - 2. Listing Criteria: Investigated, labeled, and marked by qualified electrical testing laboratory in accordance with guide information and standards specified for the following UL product categories:
 - a. UL CCN FJMX; including UL 797.
 - 3. Standard Features:
 - a. Material: Steel.
 - b. Exterior Coating: Zinc.

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- c. Interior Coating: Zinc.
- d. Minimum Trade Size: Metric designator 16 (trade size 1/2).

2.3 TYPE FMC DUCT RACEWAYS

A. UL DXUZ - Steel Flexible Metal Conduit (FMC-S):

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. ABB, Electrification Business.
 - b. Anaconda Sealtite; Anamet Electrical, Inc.
 - c. Electri-Flex Company.
 - d. International Metal Hose Co.
 - e. Penn Aluminum Conduit & EMT; Penn Aluminum International LLC; Berkshire Hathaway.
 - f. Topaz Lighting & Electric.
2. Listing Criteria: Investigated, labeled, and marked by qualified electrical testing laboratory in accordance with guide information and standards specified for the following UL product categories:
 - a. UL CCN DXUZ; including UL 1.
3. Standard Features:
 - a. Material: Steel.
 - b. Minimum Trade Size: Metric designator 16 (trade size 1/2).

2.4 TYPE LFMC DUCT RACEWAYS

A. UL DXHR - Steel Liquidtight Flexible Metal Conduit (LFMC-S):

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. ABB, Electrification Business.
 - b. Anaconda Sealtite; Anamet Electrical, Inc.
 - c. Electri-Flex Company.
 - d. International Metal Hose Co.
2. Listing Criteria: Investigated, labeled, and marked by qualified electrical testing laboratory in accordance with guide information and standards specified for the following UL product categories:
 - a. UL CCN DXHR; including UL 360.
3. Standard Features:

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- a. Material: Steel.
- b. Minimum Trade Size: Metric designator 16 (trade size 1/2).

2.5 FITTINGS FOR CONDUIT, TUBING, AND CABLE

A. UL FKAV - Fittings for Type EMT Duct Raceways:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. ABB, Electrification Business.
 - b. Allied Tube & Conduit; Atkore International.
 - c. Appleton; Emerson Electric Co., Automation Solutions.
 - d. Calconduit; Atkore International.
 - e. Crouse-Hinds; brand of Eaton, Electrical Sector.
 - f. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
 - g. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - h. Southwire Company, LLC.
 - i. Topaz Lighting & Electric.
2. Listing Criteria: Investigated, labeled, and marked by qualified electrical testing laboratory in accordance with guide information and standards specified for the following UL product categories:
 - a. UL CCN FKAV; including UL 514B.
3. Standard Features:
 - a. Material: Steel.
 - b. Coupling Method: Compression coupling.
 - c. Expansion and Deflection Fittings: UL 651 with flexible bonding jumper.

B. UL ILNR - Fittings for Type FMC Duct Raceways:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. American Fittings Corp. (AMFICO).
 - b. Liquid Tight Connector Co.
 - c. Southwire Company, LLC.
2. Listing Criteria: Investigated, labeled, and marked by qualified electrical testing laboratory in accordance with guide information and standards specified for the following UL product categories:
 - a. UL CCN ILNR; including UL 514B.

C. UL DXAS - Fittings for Type LFMC Duct Raceways:

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1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Arlington Industries, Inc.
 - b. Liquid Tight Connector Co.
2. Listing Criteria: Investigated, labeled, and marked by qualified electrical testing laboratory in accordance with guide information and standards specified for the following UL product categories:
 - a. UL CCN DXAS; including UL 514B.

PART 3 - EXECUTION

3.1 SELECTION OF CONDUITS FOR ELECTRICAL SYSTEMS

- A. Unless more stringent requirements are specified in the Contract Documents or manufacturer's published instructions, comply with NFPA 70 for selection of duct raceways. Consult Architect for resolution of conflicting requirements.
- B. Indoors:
 1. Exposed: EMT.
 2. Concealed in Ceilings and Interior Walls and Partitions: EMT.
 3. Conduits must be concealed in finished spaces.
- C. Duct Fittings: Select fittings in accordance with NEMA FB 2.10 guidelines.

3.2 INSTALLATION OF CONDUITS FOR ELECTRICAL SYSTEMS

- A. Comply with manufacturer's published instructions.
- B. Reference Standards for Installation: Unless more stringent installation requirements are specified in the Contract Documents or manufacturer's published instructions, comply with the following:
 1. Electrical Construction: ICC IBC, ICC IFC, NFPA 1, NFPA 70, and NECA NEIS 1.
 2. Electrical Safety: NFPA 70E.
 3. Commissioning of Active and Passive Fire Protection Features: NFPA 3 and NFPA 4.
 4. Grounding and Bonding: NECA NEIS 331 and Article 250 of NFPA 70.
 5. Communications Work: BICSI N1.
 6. Life Safety and Means of Egress Work: NFPA 101.
 7. Emergency and Standby Power Work: NFPA 110, NFPA 111, and NECA NEIS 416.
 8. Work in Confined Spaces: NFPA 350.
 9. Work in Basements and Other Developed Subterranean Spaces: NFPA 520.
 10. Type EMT-S: Article 358 of NFPA 70 and NECA NEIS 101.
 11. Type FMC-S: Article 348 of NFPA 70 and NECA NEIS 101.
 12. Type LFMC: Article 350 of NFPA 70 and NECA NEIS 101.

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13. Expansion Fittings: NEMA FB 2.40.
14. Consult Architect for resolution of conflicting requirements.

C. Special Installation Techniques:

1. General Requirements for Installation of Duct Raceways:

- a. Complete duct raceway installation before starting conductor installation.
- b. Make bends in duct raceway using large-radius preformed ells except for parallel bends. Field bending must be in accordance with NFPA 70 minimum radii requirements. Provide only equipment specifically designed for material and size involved.
- c. Conceal conduit within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
- d. Support conduit within 12 inch of enclosures to which attached.
- e. Install duct sealing fittings at accessible locations in accordance with NFPA 70 and fill them with listed sealing compound. For concealed duct raceways, install fitting in flush steel box with blank cover plate having finish similar to that of adjacent plates or surfaces. Install duct sealing fittings in accordance with NFPA 70.
- f. Install devices to seal duct raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal interior of duct raceways at the following points:
 - 1) Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 - 2) Where an underground service duct raceway enters a building or structure.
 - 3) Conduit extending from interior to exterior of building.
 - 4) Conduit extending into pressurized duct raceway and equipment.
 - 5) Conduit extending into pressurized zones that are automatically controlled to maintain different pressure set points.
 - 6) Where otherwise required by NFPA 70.
- g. Do not install conduits within 2 inch of the bottom side of a metal deck roof.
- h. Keep duct raceways at least 6 inch away from parallel runs of flues and steam or hot-water pipes. Install horizontal duct raceway runs above water and steam piping.
- i. Cut conduit perpendicular to the length. For conduits metric designator 53 (trade size 2) and larger, use roll cutter or a guide to make cut straight and perpendicular to the length. Ream inside of conduit to remove burrs.
- j. Install pull wires in empty duct raceways. Provide polypropylene or monofilament plastic line with not less than 200 lb tensile strength. Leave at least 12 inch of slack at both ends of pull wire. Cap underground duct raceways designated as spare above grade alongside duct raceways in use.
- k. Install duct raceways square to the enclosure and terminate at enclosures without hubs with locknuts on both sides of enclosure wall. Install locknuts hand tight, plus one-quarter turn more.
 - 1) Termination fittings with shoulders do not require two locknuts.
- l. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to metric designator 35 (trade size 1-1/4) and insulated throat metal bushings on metric

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designator 41 (trade size 1-1/2) and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.

2. Types FMC, LFMC:
 - a. Provide a maximum of 72 inch of flexible conduit for recessed and semirecessed luminaires, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
3. Duct Fittings: Install fittings in accordance with NEMA FB 2.10 guidelines.
 - a. EMT: Provide compression, fittings. Comply with NEMA FB 2.10.
 - b. Flexible Conduit: Provide only fittings listed for use with flexible conduit type. Comply with NEMA FB 2.20.
4. Identification: Provide labels for conduit assemblies, duct raceways, and associated electrical equipment.
 - a. Provide warning signs.

D. Interfaces with Other Work:

1. Firestop penetrations of fire-rated floor and wall assemblies.
2. Provide conduit hangers and supports.

3.3 FIELD QUALITY CONTROL OF CONDUITS FOR ELECTRICAL SYSTEMS

A. Tests and Inspections:

1. Perform manufacturer's recommended tests and inspections.
2. Conduit Placement:
 - a. Verify that center-line location and offsets are in accordance with the Drawings.
 - b. Verify that hangers and supports for conduits are attached to structure.
 - c. Verify that nuts on bolts or hanger rods are secure.
 - d. Verify that space between raceways and cored holes are filled with non-shrinking grout or other approved material indicated on the Drawings and the Specifications.
 - e. Verify that expansion devices are installed at locations indicated on the Drawings and the Specifications.
 - f. Verify that ends are cut square to provide flush-butting surfaces when spliced and inside edges are free of burrs that could impede installation of cables.
 - g. Verify minimum separation of utilities, or that approved mechanical protection has been provided to surrounding conduit(s) where minimum separation cannot be achieved.
3. Document all changes on Record Drawings.

B. Nonconforming Work:

1. Conduit will be considered defective if it does not pass tests and inspections.
2. Remove and replace defective units and retest.

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- C. Field Quality-Control Reports: Collect, assemble, and submit test and inspection reports.

3.4 CLEANING

- A. Verify that bentonite or other drilling fluids are contained and removed, and site is restored to its original or improved condition.

3.5 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 - 2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION

SECTION 260533.16 - BOXES AND COVERS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Junction boxes and pull boxes.

B. Products Installed, but Not Furnished, under This Section:

1. See Section 260553 "Identification for Electrical Systems" for electrical equipment labels.

1.2 ACTION SUBMITTALS

A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.

B. Product Data:

1. Junction boxes and pull boxes.

1.3 INFORMATIONAL SUBMITTALS

A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.

B. Manufacturers' Published Instructions:

1. Junction boxes and pull boxes.

PART 2 - PRODUCTS

2.1 JUNCTION BOXES AND PULL BOXES

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. Listing Criteria: UL CCN BGUZ; including UL 50 and UL 50E.

B. Source Quality Control:

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1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

C. UL BGUZ - Indoor Sheet Metal Junction and Pull Boxes:

1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Adalet.
 - b. Appleton; Emerson Electric Co., Automation Solutions.
 - c. Cooper B-line; brand of Eaton, Electrical Sector.
 - d. FSR Inc.
 - e. Hoffman; brand of nVent Electrical plc.
 - f. Hubbell Industrial Controls; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - g. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - h. Milbank Manufacturing Company.
 - i. N J Sullivan Company.
 - j. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
 - k. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - l. Spring City Electrical Manufacturing Company.
 - m. Square D; Schneider Electric USA.
3. Options:
 - a. Degree of Protection: Type 1.

D. UL BGUZ - Indoor Cast-Metal Junction and Pull Boxes:

1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Adalet.
 - b. Appleton; Emerson Electric Co., Automation Solutions.
 - c. Crouse-Hinds; brand of Eaton, Electrical Sector.
 - d. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
3. Options:
 - a. Degree of Protection: Type 1.

PART 3 - EXECUTION

3.1 SELECTION OF BOXES AND COVERS FOR ELECTRICAL SYSTEMS

- A. Unless more stringent requirements are specified in Contract Documents or manufacturers' published instructions, comply with NFPA 70 for selection of boxes and enclosures. Consult Designer for resolution of conflicting requirements.
- B. Degree of Protection:
 - 1. Indoors:
 - a. Type 1 unless otherwise indicated.
 - b. Damp or Dusty Locations: Type 2.
 - c. Locations Exposed to Airborne Dust, Lint, Fibers, or Flyings: Type 4.
 - d. Locations Exposed to Hosedown: Type 4.

3.2 INSTALLATION OF BOXES AND COVERS FOR ELECTRICAL SYSTEMS

- A. Comply with manufacturer's published instructions.
- B. Reference Standards for Installation: Unless more stringent installation requirements are specified in Contract Documents or manufacturers' published instructions, comply with the following:
 - 1. Outlet, Device, Pull, and Junction Boxes: Article 314 of NFPA 70.
 - 2. Consult Designer for resolution of conflicting requirements.
- C. Special Installation Techniques:
 - 1. Provide boxes in wiring and raceway systems wherever required for pulling of wires, making connections, and mounting of devices or fixtures.
 - 2. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to bottom of box unless otherwise indicated.
 - 3. Support boxes in recessed ceilings independent of ceiling tiles and ceiling grid.
 - 4. Fasten junction and pull boxes to, or support from, building structure. Do not support boxes by conduits.
 - 5. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to ensure a continuous ground path.
 - 6. Boxes and Enclosures in Areas or Walls with Acoustical Requirements:
 - a. Seal openings and knockouts in back and sides of boxes and enclosures with acoustically rated putty.
 - b. Provide gaskets for wallplates and covers.
 - 7. Identification: Provide labels for boxes and associated electrical equipment.
 - a. Identify field-installed conductors, interconnecting wiring, and components.

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- b. Provide warning signs.
- c. Label each box with engraved metal or laminated-plastic nameplate.

3.3 CLEANING

- A. Remove construction dust and debris from boxes before installing wallplates, covers, and hoods.

3.4 PROTECTION

- A. After installation, protect boxes from construction activities. Remove and replace items that are contaminated, defaced, damaged, or otherwise caused to be unfit for use prior to acceptance by Designer.

END OF SECTION

SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Labels.
2. Bands and tubes.
3. Tapes and stencils.
4. Tags.
5. Signs.
6. Cable ties.
7. Miscellaneous identification products.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.

1.2 ACTION SUBMITTALS

A. Submittals must comply with the requirements of the Construction Contract Clauses, Section 013300 "Submittal Procedures" and the individual Sections specifying the work.

B. Product Data:

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for electrical identification products.

C. Identification Schedule: For each piece of electrical equipment and electrical system components provide an index of nomenclature for electrical equipment and system components used in identification signs and labels.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Comply with ASME A13.1 and IEEE C2.

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- B. Comply with 29 CFR 1910.144 for color identification of hazards; 29 CFR 1910.145 for danger, caution, warning, and safety instruction signs and tags; and the following:
 - 1. Ceiling-mounted hangers, supports, cable trays, and raceways must be finished, painted, or suitably marked safety yellow where less than 7.7 ft above finished floor.
- C. Signs, labels, and tags required for personnel safety must comply with the following standards:
 - 1. Safety Colors: NEMA Z535.1.
 - 2. Facility Safety Signs: NEMA Z535.2.
 - 3. Safety Symbols: NEMA Z535.3.
 - 4. Product Safety Signs and Labels: NEMA Z535.4.
 - 5. Safety Tags and Barricade Tapes for Temporary Hazards: NEMA Z535.5.
- D. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, must comply with UL 969.
- E. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.

2.2 COLOR AND LEGEND REQUIREMENTS

- A. Raceways and Cables Carrying Circuits at 1000 V or Less:
 - 1. Black letters on orange field.
 - 2. Legend: Indicate voltage and system or service type.
- B. Color-Coding for Phase- and Voltage-Level Identification, 1000 V or Less: Use colors listed below for ungrounded feeder and branch-circuit conductors.
 - 1. Color must be factory applied.
 - 2. Colors for 208Y/120 V Circuits:
 - a. Phase A: Black.
 - b. Phase B: Red.
 - c. Phase C: Blue.
 - 3. Color for Neutral: White.
 - 4. Color for Equipment Grounds: Green.

C. Warning Label Colors:

1. Identify system voltage with black letters on orange background.

D. Warning labels and signs must include, but are not limited to, the following legends:

1. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 3 FEET MINIMUM."

E. Equipment Identification Labels:

1. Black letters on white field.

2.3 LABELS

A. Vinyl Wraparound Labels: Preprinted, flexible labels laminated with clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing label ends.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Brady Corporation.
 - b. Champion America.
 - c. emedco.
 - d. Grafoplast Wire Markers.
 - e. HellermannTyton.
 - f. LEM Products Inc.
 - g. Marking Services, Inc.
 - h. Panduit Corp.
 - i. Seton Identification Products; a Brady Corporation company.

B. Snap-Around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeves, with diameters sized to suit diameters and that stay in place by gripping action.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Brady Corporation.
 - b. HellermannTyton.
 - c. Marking Services, Inc.
 - d. Panduit Corp.
 - e. Seton Identification Products; a Brady Corporation company.

C. Self-Adhesive Wraparound Labels: Preprinted, 3 mil thick, vinyl flexible label with acrylic pressure-sensitive adhesive.

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1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. A'n D Cable Products.
 - b. Brady Corporation.
 - c. Brother International Corporation.
 - d. emedco.
 - e. Grafoplast Wire Markers.
 - f. Ideal Industries, Inc.
 - g. LEM Products Inc.
 - h. Marking Services, Inc.
 - i. Panduit Corp.
 - j. Seton Identification Products; a Brady Corporation company.
2. Self-Lamination: Clear; UV-, weather- and chemical-resistant; self-laminating, protective shield over legend. Labels sized such that clear shield overlaps entire printed legend.
3. Marking for Labels:
 - a. Machine-printed, permanent, waterproof, black ink recommended by printer manufacturer.

D. Self-Adhesive Labels: Vinyl, thermal, transfer-printed, 3 mil thick, multicolor, weather- and UV-resistant, pressure-sensitive adhesive labels, configured for intended use and location.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. A'n D Cable Products.
 - b. Brady Corporation.
 - c. Brother International Corporation.
 - d. emedco.
 - e. Grafoplast Wire Markers.
 - f. HellermannTyton.
 - g. Ideal Industries, Inc.
 - h. LEM Products Inc.
 - i. Marking Services, Inc.
 - j. Panduit Corp.
 - k. Seton Identification Products; a Brady Corporation company.
2. Minimum Nominal Size:
 - a. 1-1/2 by 6 inch for raceway and conductors.
 - b. 3-1/2 by 5 inch for equipment.
 - c. As required by authorities having jurisdiction.

2.4 BANDS AND TUBES

- A. Snap-Around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeves, 2 inch long, with diameters sized to suit diameters and that stay in place by gripping action.

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1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Brady Corporation.
 - b. HellermannTyton.
 - c. Marking Services, Inc.
 - d. Panduit Corp.
- B. Heat-Shrink Preprinted Tubes: Flame-retardant polyolefin tubes with machine-printed identification labels, sized to suit diameter and shrunk to fit firmly. Full shrink recovery occurs at maximum of 200 deg F. Comply with UL 224.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Brady Corporation.
 - b. Panduit Corp.

2.5 TAPES AND STENCILS

- A. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Carlton Industries, LP.
 - b. Champion America.
 - c. HellermannTyton.
 - d. Ideal Industries, Inc.
 - e. Marking Services, Inc.
 - f. Panduit Corp.
- B. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; not less than 3 mil thick by 1 to 2 inch wide; compounded for outdoor use.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Brady Corporation.
 - b. Carlton Industries, LP.
 - c. emedco.
 - d. Marking Services, Inc.
- C. Floor Marking Tape: 2 inch wide, 5 mil pressure-sensitive vinyl tape, with yellow and black stripes and clear vinyl overlay.

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1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Carlton Industries, LP.
 - b. Seton Identification Products; a Brady Corporation company.

2.6 TAGS

- A. Nonmetallic Preprinted Tags: Polyethylene tags, 0.015 inch thick, color-coded for phase and voltage level, with factory printed permanent designations; punched for use with self-locking cable tie fastener.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Brady Corporation.
 - b. Carlton Industries, LP.
 - c. emedco.
 - d. Grafoplast Wire Markers.
 - e. LEM Products Inc.
 - f. Marking Services, Inc.
 - g. Panduit Corp.
 - h. Seton Identification Products; a Brady Corporation company.

2.7 CABLE TIES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 1. HellermannTyton.
 2. Ideal Industries, Inc.
 3. Marking Services, Inc.
 4. Panduit Corp.
- B. General-Purpose Cable Ties: Fungus inert, self-extinguishing, one piece, self-locking, and Type 6/6 nylon.
 1. Minimum Width: 3/16 inch.
 2. Tensile Strength at 73 deg F in accordance with ASTM D638: 12,000 psi.
 3. Temperature Range: Minus 40 to plus 185 deg F.
 4. Color: Black, except where used for color-coding.
- C. Plenum-Rated Cable Ties: Self-extinguishing, UV stabilized, one piece, and self-locking.
 1. Minimum Width: 3/16 inch.
 2. Tensile Strength at 73 deg F in accordance with ASTM D638: 7000 psi.
 3. UL 94 Flame Rating: 94V-0.
 4. Temperature Range: Minus 50 to plus 284 deg F.

5. Color: Black.

2.8 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Retain paint system applicable for surface material and location.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Self-Adhesive Identification Products: Before applying electrical identification products, clean substrates of substances that could impair bond, using materials and methods recommended by manufacturer of identification product.

3.2 INSTALLATION

- A. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.
- B. Install identifying devices before installing acoustical ceilings and similar concealment.
- C. Verify identity of item before installing identification products.
- D. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.
- E. Apply identification devices to surfaces that require finish after completing finish work.
- F. Install signs with approved legend to facilitate proper identification, operation, and maintenance of electrical systems and connected items.
- G. System Identification for Raceways and Cables under 1000 V: Identification must completely encircle cable or conduit. Place identification of two-color markings in contact, side by side.
 1. Secure tight to surface of conductor, cable, or raceway.
- H. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
- I. Elevated Components: Increase sizes of labels, signs, and letters to those appropriate for viewing from floor.
- J. Vinyl Wraparound Labels:

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1. Secure tight to surface of raceway or cable at location with high visibility and accessibility.
 2. Attach labels that are not self-adhesive type with clear vinyl tape, with adhesive appropriate to location and substrate.
- K. Snap-Around Labels: Secure tight to surface at location with high visibility and accessibility.
- L. Self-Adhesive Wraparound Labels: Secure tight to surface at location with high visibility and accessibility.
- M. Self-Adhesive Labels:
1. Install unique designation label that is consistent with wiring diagrams, schedules, and operation and maintenance manual.
 2. Unless otherwise indicated, provide single line of text with 1/2 inch high letters on 1-1/2 inch high label; where two lines of text are required, use labels 2 inch high.
- N. Snap-Around Color-Coding Bands: Secure tight to surface at location with high visibility and accessibility.
- O. Heat-Shrink, Preprinted Tubes: Secure tight to surface at location with high visibility and accessibility.
- P. Marker Tapes: Secure tight to surface at location with high visibility and accessibility.
- Q. Self-Adhesive Vinyl Tape: Secure tight to surface at location with high visibility and accessibility.
1. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for minimum distance of 6 inch where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding.
- R. Nonmetallic Preprinted Tags:
1. Place in location with high visibility and accessibility.
 2. Secure using cable ties.
- S. Cable Ties: General purpose, for attaching tags, except as listed below:
1. Outdoors: UV-stabilized nylon.
 2. In Spaces Handling Environmental Air: Plenum rated.
- 3.3 IDENTIFICATION SCHEDULE
- A. Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment. Install access doors or panels to provide view of identifying devices.
- B. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, pull points, and locations of high visibility. Identify by system and circuit designation.

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- C. Accessible Raceways and Metal-Clad Cables, 1000 V or Less, for Feeder, and Branch Circuits, More Than 30 A and 120 V to Ground: Identify with self-adhesive raceway labels.
 - 1. Locate identification at changes in direction, at penetrations of walls and floors, at 50 ft maximum intervals in straight runs, and at 25 ft maximum intervals in congested areas.

- D. Accessible Fittings for Raceways and Cables within Buildings: Identify cover of junction and pull box of the following systems with self-adhesive labels containing wiring system legend and system voltage. System legends must be as follows:
 - 1. "EMERGENCY POWER."
 - 2. "POWER."

- E. Power-Circuit Conductor Identification, 1000 V or Less: For conductors in pull and junction boxes use self-adhesive wraparound labels or snap-around labels to identify phase.
 - 1. Locate identification at changes in direction, at penetrations of walls and floors, at 50 ft maximum intervals in straight runs, and at 25 ft maximum intervals in congested areas.

- F. Auxiliary Electrical Systems Conductor Identification: Self-adhesive vinyl tape that is uniform and consistent with system used by manufacturer for factory-installed connections.
 - 1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.

END OF SECTION

SECTION 265000 - LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Luminaires.
2. Luminaire fittings.

B. Related Requirements:

1. Section 018116 "Facility Environmental Requirements" specifies basis-of-design environmental conditions and performance criteria that are applicable to product selection and installation of the Work on the Project.
2. Section 260010 "Supplemental Requirements for Electrical" specifies additional requirements applicable to coordinating, scheduling, and sequencing of the Work specified in this Section.
3. Section 260519 "Low-Voltage Electrical Power Conductors and Cables".
4. Section 260529 "Hangers and Supports for Electrical Systems" specifies channel and angle supports installed by this Section.
5. Section 260553 "Identification for Electrical Systems" specifies electrical equipment labels and warning signs installed by this Section.

1.2 DEFINITIONS

- A. BUG Rating: Backlight, uplight, and glare rating for light pollution from exterior luminaires.
- B. Correlated Color Temperature (CCT): The absolute temperature (in kelvins) of a blackbody whose chromaticity (color quality) most nearly resembles that of the light source.
- C. Color Rendering Index (CRI): The measure of the degree of color shift objects undergo when illuminated by the light source as compared with the color of those same objects when illuminated by a reference light source. The lower the CRI of a light source, the more difficult it is to identify colors and stripes on electronic components and wiring.
- D. IDA: International Dark-Sky Association.
- E. IES: Illuminating Engineering Society.
- F. LPD: Lighting power density.

1.3 ACTION SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.

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B. Product Data: For each type of product.

1. Luminaires: Include the following additional information:

- a. Product Listing: Include copy of unexpired approval letter, on letterhead of qualified electrical testing agency, certifying product's compliance with specified listing criteria.
 - 1) If listed manufacturer differs from selling manufacturer, indicate relationship between entities on submittal. Clearly indicate which entity warrants product performance and fitness for purpose.
 - 2) Listing criteria identified in approval letter must match specified listing criteria. Approval of only equipment's enclosure is not considered approval of equipment for intended application.
 - 3) Product identification in approval letter must match product branding and model numbers in submittal. Approval letters for similar products are not acceptable.
- b. Product Certificates: Include product certificates stating compliance with standards listed below, signed by manufacturer or fabricator.
 - 1) Manufacturers' Certified Data: Photometric data certified by manufacturer's laboratory with current accreditation under National Voluntary Laboratory Accreditation Program (NVLAP) for Energy Efficient Lighting Products.
- c. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- d. Include operating characteristics, electrical characteristics, and furnished accessories.
- e. Include schedule of submitted lighting products. Arrange schedule and accompanying product data in order by luminaire and lamp designations indicated on the Drawings.
- f. Include battery and charger data for emergency lighting units.
- g. Include life, output (lumens, CCT, and CRI), and energy-efficiency data.
- h. Include photometric data and adjustment factors obtained from qualified laboratory tests.
- i. Include manufacturer's sample warranty language.

2. Luminaire Fittings: Include the following additional information:

- a. Product Listing: Include copy of unexpired approval letter, on letterhead of qualified electrical testing agency, certifying product's compliance with specified listing criteria.
 - 1) If listed manufacturer differs from selling manufacturer, indicate relationship between entities on submittal. Clearly indicate which entity warrants product performance and fitness for purpose.
 - 2) Listing criteria identified in approval letter must match specified listing criteria. Approval of only equipment's enclosure is not considered approval of equipment for intended application.

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3) Product identification in approval letter must match product branding and model numbers in submittal. Approval letters for similar products are not acceptable.

- b. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- c. Include operating characteristics, electrical characteristics, and furnished accessories.
- d. Include schedule of submitted lighting products. Arrange schedule and accompanying product data in order by luminaire and lamp designations indicated on the Drawings.
- e. Include manufacturer's sample warranty language.

C. Field quality-control reports.

1.4 INFORMATIONAL SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Manufacturers' published instructions.

1.5 CLOSEOUT SUBMITTALS

- A. Submittals shall comply with the requirements of Section 013300 "Submittal Procedures" and the individual sections specifying the work.
- B. Warranty documentation.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect exposed surface finishes on lighting equipment by applying strippable, temporary protective covering before shipping.

1.7 WARRANTY FOR LUMINAIRES

- A. Special Manufacturer Extended Warranty: Manufacturer warrants that luminaires perform in accordance with specified requirements and agrees to provide repair or replacement of products that fail to perform as specified within extended-warranty period.
 - 1. Extended-Warranty Period: Five years from date of Substantial Completion; full coverage for labor, materials, and equipment.

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1.8 WARRANTY FOR BATTERIES

- A. Special Manufacturer Extended Warranty for Batteries: Manufacturer warrants that batteries perform in accordance with specified requirements and agrees to provide repair or replacement of batteries that fail to perform as specified within extended-warranty period.
 - 1. Initial Extended-Warranty Period for Li-ion Batteries: Three years from date of Substantial Completion; full coverage for materials only, free on board origin, freight prepaid.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Products or components listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
- B. Provide products listed in lighting fixtures schedule. Fixtures in schedule are basis of design. Alternate fixtures are acceptable provided the alternate meets the performance and aesthetic standards of the basis of design.

2.2 LUMINAIRES

- A. Luminaire:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Albeo; brand of GE Current, a Daintree company; American Industrial Partners (AIP).
 - b. Alera Lighting; brand of GE Current, a Daintree company; American Industrial Partners (AIP).
 - c. Amerlux.
 - d. Architectural Area Lighting; brand of GE Current, a Daintree company; American Industrial Partners (AIP).
 - e. Atlas Lighting Products.
 - f. Columbia Lighting; brand of GE Current, a Daintree company; American Industrial Partners (AIP).
 - g. Cooper Lighting Solutions; Signify North America Corp.
 - h. Deco Lighting.
 - i. Digital Lumens.
 - j. E-conolight.
 - k. Kim Lighting; brand of GE Current, a Daintree company; American Industrial Partners (AIP).
 - l. LMPG Inc.
 - m. Lighting Services, Inc.
 - n. Lightolier; brand of Signify North America Corp.

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- o. Lithonia Lighting; Acuity Brands Lighting, Inc.
- p. Luraline Lighting.
- q. OSRAM SYLVANIA.
- r. Philips; Signify North America; Signify Holding.
- s. Pure Lighting Manufacturing Ltd.
- t. PureEdge Lighting.
- u. RAB Lighting.
- v. Selux Corporation.
- w. Specialty Lighting Industries, Inc.
- x. Visa Lighting.
- y. West Durable Lighting.
- z. Zumtobel Lighting, Inc.; Zumtobel Group.

2. Listing Criteria:

- a. LED Luminaires: UL CCN IFAM; including UL 1598.
- b. Marked in accordance with UL CCN HYXT, including UL 1598, for compatible power supply, installation location, and environmental conditions.

3. Standard Features:

- a. Openings: Doors, frames, and access panels must operate smoothly, not leak light under operating conditions, and permit relamping without use of tools or parts falling from enclosure.
- b. Nominal Operating Voltage: 120 V(ac).
- c. CRI: 80+.
- d. Ballast or Driver Location: Internal.
- e. LED Luminaires (UL CCN IFAM):
 - 1) Output Intensity: As indicated in lighting fixture schedule.
 - 2) Rated Life: 50 000 hours to L70.
 - 3) CCT: As indicated in lighting fixture schedule.

B. UL FTBR or FTBV - Emergency Lighting and Power Equipment:

1. Standard Features:

- a. Charger: Fully automatic, solid-state, constant-current type with sealed power transfer relay.
- b. Status and Test Indication: Visible and accessible without opening luminaire or entering ceiling space.
 - 1) Indicator Light: LED indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.
 - 2) Test Push-Button: Push-to-test button in unit housing simulates loss of normal power and demonstrates unit operability.
- c. Nominal Operating Voltage: 120 V(ac).
- d. Mounting: Wall with universal junction box adaptor.

2. Other Available Features Required by the Project:

- a. Integral-Type Emergency Power Unit: Self-contained, modular, battery-inverter unit, suitable for powering one or more lamps, remote mounted from luminaire.
 - 1) Emergency Connection: Operate continuously. Connect unswitched circuit to battery-inverter unit and switched circuit to luminaire driver.
 - 2) Operation: Relay automatically turns lamp on when power-supply circuit voltage drops to 80 percent of nominal voltage or below. Lamp automatically disconnects from battery when voltage approaches deep-discharge level. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.
 - 3) Battery Type: Ni-Cd.
 - 4) Charger: Fully automatic, solid-state, constant-current type.
 - 5) Housing: Type 1 enclosure listed for installation inside, on top of, or remote from luminaire. Remote assembly must be located no less than half of distance recommended by driver manufacturer, whichever is less.
 - 6) Test Push-Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
 - 7) LED Indicator Light: Indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.
 - 8) Remote Test: Switch in handheld remote device aimed in direction of tested unit initiates coded infrared signal. Signal reception by factory-installed infrared receiver in tested unit triggers simulation of loss of its normal power supply, providing visual confirmation of either proper or failed emergency response.

2.3 LUMINAIRE FITTINGS

A. Luminaire Support Accessories:

1. Standard Features:

- a. Sized and rated for luminaire weight.
- b. Capable of maintaining luminaire position after cleaning and relamping.
- c. Capable of supporting luminaire without causing deflection of ceiling or wall.
- d. Capable of supporting horizontal force equal to 100 percent of luminaire weight and vertical force equal to 400 percent of luminaire weight.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for luminaire to verify actual locations of luminaire and electrical connections before luminaire installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF LIGHTING

- A. Comply with manufacturer's published instructions.
- B. Reference Standards for Installation: Unless more stringent installation requirements are specified in Contract Documents or manufacturers' published instructions, comply with the following:
 - 1. Electrical Construction: ICC IBC, ICC IFC, NFPA 1, NFPA 70, and NECA NEIS 1.
 - 2. Grounding and Bonding: NECA NEIS 331 and Article 250 of NFPA 70.
 - 3. Work in Basements and Other Developed Subterranean Spaces: NFPA 520.
 - 4. Installation of Indoor Lighting Systems: NECA NEIS 500.
 - 5. Installation of Emergency Lighting and Exit Signs: ICC IBC, NFPA 101, and Parts IV and V in Article 700 of NFPA 70.
 - 6. Consult Architect for resolution of conflicting requirements.
- C. Special Installation Techniques:
 - 1. Install luminaires level, plumb, and square with finished floor or grade unless otherwise indicated.
 - 2. Install luminaires at height and aiming angle as indicated on the Drawings.
 - 3. Coordinate layout and installation of luminaires with other construction.
 - 4. Flush-Mounted Luminaire Support:
 - a. Secured to outlet box.
 - b. Attached to ceiling structural members at four points equally spaced around circumference of luminaire.
 - c. Trim ring flush with finished surface.
 - 5. Wall-Mounted Luminaire Support: Attached to structural members in walls.
 - a. Do not attach luminaires directly to gypsum board.
 - 6. Install wiring connections for luminaires.
 - 7. Identification: Provide labels for luminaires and associated electrical equipment.
 - a. Identify field-installed conductors, interconnecting wiring, and components.
 - b. Provide warning signs.
 - c. Label each enclosure with engraved metal or laminated-plastic nameplate.

3.3 FIELD QUALITY CONTROL OF LIGHTING

- A. Tests and Inspections:
 - 1. Perform manufacturer's recommended tests and inspections.
 - 2. Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.
 - 3. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation. Verify transfer from normal power to battery power and retransfer to normal.
- B. Nonconforming Work:

UPTON-HASTINGS BATHROOM RENOVATIONS
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1. Luminaire will be considered defective if it does not pass tests and inspections.
2. Remove and replace defective units and retest.

C. Field Quality-Control Reports: Collect, assemble, and submit test and inspection reports.

3.4 SYSTEM STARTUP

A. Perform startup service.

1. Complete installation and startup checks in accordance with manufacturer's published instructions.
2. Charge emergency power units and batteries minimum of 24 hours and conduct one-hour discharge test.

3.5 CLOSEOUT ACTIVITIES

A. Training:

1. Train Owner's maintenance personnel on the following topics:
 - a. How to adjust, operate, and maintain luminaires.

3.6 PROTECTION

A. After installation, protect lighting equipment from construction activities. Remove and replace items that are contaminated, defaced, damaged, or otherwise caused to be unfit for use prior to acceptance by Owner.

END OF SECTION

