SECTION 00 01 01

PROJECT MANUAL

ISSUED FOR BID

FOR

RUSSELL HALL
BUILDING ENVELOPE UPGRADES

UNIVERSITY OF SOUTHERN MAINE

February 28, 2025

Prepared by:

University of Maine System
& Gale Associates

END OF SECTION 00 01 01

SECTION 00 01 10
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SECTION 00 11 13
ADVERTISEMENT FOR BIDS

Bids for: **RUSSELL HALL BUILDING ENVELOPE UPGRADES**

Shall be submitted electronically to cppmquestions@maine.edu
With the following Email Subject Line: **RUSSELL HALL BUILDING ENVELOPE UPGRADES**

Bids will be received until **1:00pm** on **Tuesday, March 25, 2025** 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 Link: https://maine.zoom.us/j/84151112043?pwd=pL2AzPJ0VOFdRmjtEiiDKHLSV9juyp.1
Password: 981420
Or via telephone: (US) +1 669-900-6833
Meeting ID: 84151112043
Password: 981420

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 Wednesday, March 12, 2025, 1:00pm. Attendees are to meet at Russell Hall, 24 University Way, Gorham ME. 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: Masonry repair and restoration, roofing replacement, window glass replacement and related Work.

The electronic documents (.pdf) may be examined and downloaded at the following site:

https://usm.maine.edu/facilities-management/current-projects/

Any questions related to the plans and specifications must be submitted prior to 2:00 PM on Tuesday, March 18, 2025, via email to David Burrows, Project Manager, University of Southern Maine; cppmquestions@maine.edu

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 by and through University of Southern Maine
c/o John M. Souther,
Executive Director of Facilities Management
96 Falmouth St
Portland, ME 04103

Having carefully examined the form of contract, general conditions and plans and specifications contained therein for ____, 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 ($ ________________________).

ALLOWANCE PRICES (Section 01 21 00): Allowance prices form a part of the Base Bid and shall not be considered additional to the Base Bid.

Allowance ____________NONE_________ $______________________

ALTERNATE PRICES (Section 01 23 00): as follows:

Alternate 1: Work as identified on Partial South Elevation – Detail 1/A201	$______________________
Alternate 2: Work as identified Partial South Elevation – Detail 5/A202	$______________________
Alternate 3: Work as identified Partial East Elevation – Detail 6/A203	$______________________
Alternate 4: Work as identified Partial North, East and West Elevations Details 7 and 8/A203 and Details 9 and 10/A204	$______________________
Alternate 5: Work as identified Partial West Elevation – Detail 11/A204	$______________________
Alternate 6: Historic Replicating Glass Replacement	$______________________

UNIT PRICE ITEMS: The undersigned agrees to perform additional work as directed, or to allow for work to be omitted, at the following prices:

Item	Quantity	Unit Price	Total
1. Replace cracked, broken, spalled or missing face brick units.	50 Each	$ ___________	$________________
2. Selectively repoint areas of deteriorated mortar joints.	50 Square Feet	$ ___________	$________________
3. Selectively repoint deteriorated brick to cast stone mortar joints.	60 Linear Feet	$ ___________	$________________
4. Repair stepped cracked brickwork.	10 Linear Feet	$ ___________	$________________

5. Rebuild areas of brickwork.	50 Square Feet	$ ____________	$________________
6. Repair cracked cast stone.	20 Linear Feet	$ ____________	$________________
7. Repair shallow spalled cast stone.	15 Square Feet	$ ____________	$________________
8. Repair deep spalled cast stone.	10 Square Feet	$ ____________	$________________
9. Replace Cast Stone Quoins Type 1 (Up to 1'-8" Unit Length).	5 Each	$ ____________	$________________
10. Replace Cast Stone Quoins Type 1 (Up to 1'-8" Unit Length).	5 Each	$ ____________	$________________
11. Replace Cast Stone Quoins Type 2 (Up to 1'-8" Unit Length).	5 Each	$ ____________	$________________
12. Replace Cast Stone Quoins Type 3 (Up to 1'-8" Unit Length).	5 Each	$ ____________	$________________
13. Replace Cast Stone Quoins Type 3 (Up to 1'-8" Unit Length).	5 Each	$ ____________	$________________
14. Replace Cast Stone Quoins Type 3 (Up to 1'-8" Unit Length).	5 Each	$ ____________	$________________
15. Replacement of deteriorated wood roof deck.	600 Square Feet	$ ____________	$________________
16. Replacement of deteriorated wood roof blocking.	300 Linear Feet	$ ____________	$________________
17. Replacement of broken glass.	10 Each	$____________	$________________

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 complete the work on or before August 15, 2025 .
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) ____ Fax ______________________

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 – RUSSELL HALL BUILDING ENVELOPE UPGRADES***
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 Saundra 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 RUSSELL HALL BUILDING ENVELOPE UPGRADES, 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: *(name and address)*
Samples

CONTRACT INFORMATION:
Contract For:
Date:

CERTIFICATE INFORMATION:
Producer:
Insured:
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)*

			Yes	No	N/A
A.		**General Liability**			
	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?	☐	☐	☐
	b	Personal injury and advertising injury?	☐	☐	☐
	c	Damages because of physical damage to or destruction of tangible property, including the loss of use of such property?	☐	☐	☐
	d	Bodily injury or property damage arising out of completed operations?	☐	☐	☐
	e	The Contractor's indemnity obligations included in the Contract Documents?	☐	☐	☐
	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?	☐	☐	☐
	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?	☐	☐	☐
	c	Claims for bodily injury other than to employees of the insured?	☐	☐	☐
	d	Claims for the Contractor's indemnity obligations included in the Contract Documents arising out of injury to employees of the insured?	☐	☐	☐
	e	Claims for loss excluded under a prior work endorsement or other similar exclusionary language?	☐	☐	☐
	f	Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language?	☐	☐	☐
	g	Claims related to residential, multi-family, or other habitational projects?	☐	☐	☐
	h	Claims related to roofing?	☐	☐	☐
	i	Claims related to exterior insulation finish systems, synthetic stucco, or similar exterior coatings or surfaces?	☐	☐	☐
	j	Claims related to earth subsistence or movement?	☐	☐	☐
	k	Claims related to explosion, collapse, and underground hazards?	☐	☐	☐

			Yes	No	N/A
B.		**Other Insurance Coverage**			
	1.	Indicate whether the Contractor has the following insurance coverages and, if so, indicate the coverage limits for each.			
	a	Professional liability insurance Coverage limits:	☐	☐	☐
	b	Pollution liability insurance	☐	☐	☐

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

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.

INSURERS AFFORDING COVERAGE

INSURED

INSURER A:

INSURER B:

INSURER C:

INSURER D:

INSURER E:

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				EACH OCCURRENCE	$
	☐ COMMERCIAL GENERAL LIABILITY				FIRE DAMAGE (Any one fire)	$
	☐ ☐ CLAIMS MADE ☐ OCCUR				MED EXP (Any one person)	$
	☐ ________				PERSONAL & ADV INJURY	$
	☐ ________				GENERAL AGGREGATE	$
	GEN'L AGGREGATE LIMIT APPLIES PER:				PRODUCTS - COMP/OP AGG	$
	☐ POLICY ☐ PRO-JECT ☐ LOC					
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT (Ea accident)	$
	☐ ANY AUTO					
	☐ ALL OWNED AUTOS				BODILY INJURY (Per person)	$
	☐ SCHEDULED AUTOS					
	☐ HIRED AUTOS				BODILY INJURY (Per accident)	$
	☐ NON-OWNED AUTOS					
	☐ ________				PROPERTY DAMAGE (Per accident)	$
	GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	$
	☐ ANY AUTO				OTHER THAN AUTO ONLY: EA ACC	$
	☐				AGG	$
	EXCESS LIABILITY				EACH OCCURRENCE	$
	☐ OCCUR ☐ CLAIMS MADE				AGGREGATE	$
						$
	☐ DEDUCTIBLE					$
	☐ RETENTION $					$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY				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 | ADDITIONAL INSURED; INSURER LETTER: ____

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

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

ACORD 25-S (7/97)

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.

ACORD 25-S (7/97)

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 sidetrack 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 nonrenewal 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 website 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
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

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.

END OF SECTION 00 62 16.14

AIA Document G703® – 1992

Continuation Sheet

AIA Document G702®, Application and Certification for Payment, or G732™, Application and Certificate for Payment, Construction Manager as Adviser Edition, containing Contractor's signed certification is attached.
Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO: 001
APPLICATION DATE:
PERIOD TO:
ARCHITECT'S PROJECT NO:

A	B	C	D	E	F	G		H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED		MATERIALS PRESENTLY STORED (NOT IN D OR E)	TOTAL COMPLETED AND STORED TO DATE (D + E + F)	% (G ÷ C)	BALANCE TO FINISH (C - G)	RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD					
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
	GRAND TOTAL	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**0.00%**	**$0.00**	**$0.00**

User Notes:

(3B9ADA57)

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:

FROM CONTRACTOR:

VIA ARCHITECT:

APPLICATION NO:
PERIOD TO:

CONTRACT FOR:
CONTRACT DATE:
PROJECT NOS: / /

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

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 .... ________

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
(Line 3 less Line 6) 0.00

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.

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: RUSSELL HALL BUILDING ENVELOPE UPGRADES
Project Title

The project is located at: UNIVERSITY OF SOUTHERN 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: *(Name and address)*
Samples

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

ARCHITECT'S PROJECT NUMBER:

CONTRACT FOR:

CONTRACT DATED:

OWNER: ☐
ARCHITECT: ☐
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)

, SURETY,

on bond of
(Insert name and address of Contractor)

, CONTRACTOR,

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

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)

Attest:
(Seal):

(Printed name and title)

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 ____________________________________ By: ______________________________

Power of Attorney Must be Attached 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, incompliance 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, it 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:

____
Principal/Contractor-Corporation

______________________________ By: ______________________________
Secretary President

END OF SECTION 00 62 79

AIA® Document G716™ – 2004

Request for Information ("RFI")

TO:

FROM:

PROJECT:
Samples

ISSUE DATE:

RFI No.

REQUESTED REPLY DATE:

PROJECT NUMBERS: /

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

1. 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:

2. 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: RUSSELL HALL BUILDING ENVELOPE UPGRADES

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

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

ARCHITECT'S PROJECT NUMBER:

CONTRACT FOR:
CONTRACT DATED:

OWNER: ☐
ARCHITECT: ☐
CONTRACTOR: ☐
SURETY: ☐
OTHER: ☐

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

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).

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:

User Notes: (3B9ADA4E)

AIA® Document G706A™ – 1994

Contractor's Affidavit of Release of Liens

PROJECT: *(Name and address)*
Samples

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

ARCHITECT'S PROJECT NUMBER:

CONTRACT FOR:
CONTRACT DATED:

OWNER: ☐
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: RUSSELL HALL BUILDING ENVELOPE UPGRADES

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

SECTION 00 65 19.18

SUBCONTRACTOR/SUPPLIER CONDITIONAL
RELEASE AND WAIVER OF LIEN

DATE: ____________________________

State of: __________________________
State of Signature

County of: _________________________
County of Signature

SUBJECT:

Project Name: RUSSELL HALL BUILDING ENVELOPE UPGRADES

Project Location: UNIVESITY OF SOUTHERN MAINE

___________________________________(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:

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

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

ARCHITECT'S PROJECT NUMBER:

CONTRACT FOR:

CONTRACT DATED:

OWNER: ☐
ARCHITECT: ☐
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*)

, SURETY,

on bond of
(Insert name and address of Contractor)

, CONTRACTOR,

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)

, 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)

Attest:
(Seal):

(Printed name and title)

User Notes: (3B9ADA5A)

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.

TABLE OF ARTICLES

Init.

/

INDEX
(Topics and numbers in bold are Section headings.)

Init.

/

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. <u>The Architect is the Initial Decision Maker for this Agreement.</u>

§ 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. <u>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.</u>

§ 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. <u>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.</u>

§ 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. <u>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.</u>

§ 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.~~ 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.~~

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, 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.

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 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 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

Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

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

§ 5.3 Subcontractual Relations

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

§ 5.4 Contingent Assignment of Subcontracts

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

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

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

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

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

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

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

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

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

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

§ 6.2 Mutual Responsibility

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

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

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

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

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

§ 6.3 Owner's Right to Clean Up

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

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

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

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

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

§ 7.1.4 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.

.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 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.

§ 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 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 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

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.~~

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

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

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

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

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

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

§ 12.2.2 After Substantial Completion

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

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

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

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

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

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

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

ARTICLE 13 MISCELLANEOUS PROVISIONS

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

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

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

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

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

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

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

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

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

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

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

~~§ 13.5 Interest~~
~~Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.~~

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

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

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

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

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

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

.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,

but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

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

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

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

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

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

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

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

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

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

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

§ 15.2 Initial Decision
§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision

shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

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

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

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

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

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

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

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

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

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

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of

60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

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

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

§ 15.4 Arbitration
§ 15.4.1 ~~If the~~ 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
From More Than	To and Including	of Liquidated Damages
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

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 ~~docks~~ 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

THIS DOCUMENT MUST BE CLEARLY POSTED AT ALL CONSTRUCTION SITES FUNDED IN PART WITH STATE FUNDS

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.

2025 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	$33.00	$11.13	$44.13
Bulldozer Operator	$34.90	$2.24	$37.14
Carpenter	$28.72	$19.38	$48.10
Cement Masons And Concrete Finisher	$43.67	$34.75	$78.42
Construction And Maintenance Painters	$27.00	$1.39	$28.39
Construction Laborer	$21.90	$19.72	$41.62
Crane And Tower Operators	$40.00	$12.41	$52.41
Crushing Grinding And Polishing Machine Operators	$27.50	$5.64	$33.14
Earth Drillers - Except Oil And Gas	$23.30	$0.99	$24.29
Electrical Power - Line Installer And Repairers	$43.26	$16.55	$59.81
Electricians	$37.43	$20.07	$57.50
Elevator Installers And Repairers	$71.21	$43.75	$114.96
Excavator Operator	$32.00	$4.29	$36.29
Fence Erectors	$26.00	$2.63	$28.63
Flaggers	$20.50	$0.40	$20.90
Floor Layers - Except Carpet/Wood/Hard Tiles	$25.75	$3.73	$29.48
Glaziers	$46.26	$22.61	$68.87
Grader/Scraper Operator	$31.00	$6.86	$37.86
Hazardous Materials Removal Workers	$20.00	$0.94	$20.94
Heating And Air Conditioning And Refrigeration Mechanics And Installers	$35.00	$5.62	$40.62
Heavy And Tractor - Trailer Truck Drivers	$25.25	$3.96	$29.21
Highway Maintenance Workers	$22.85	$4.79	$27.64
Industrial Machinery Mechanics	$30.00	$4.60	$34.60
Industrial Truck And Tractor Operators	$26.17	$3.49	$29.66
Insulation Worker - Mechanical	$24.00	$4.63	$28.63
Ironworker - Ornamental	$31.37	$25.82	$57.19
Light Truck Or Delivery Services Drivers	$27.86	$1.95	$29.81
Loading Machine And Dragline Operators	$27.50	$6.43	$33.93
Millwrights	$31.45	$15.17	$46.62
Mobile Heavy Equipment Mechanics - Except Engines	$30.00	$5.67	$35.67
Operating Engineers And Other Equipment Operators	$28.50	$3.54	$32.04
Paving Surfacing And Tamping Equipment Operators	$28.60	$12.03	$40.63
Pile-Driver Operators	$36.00	$2.87	$38.87
Pipe/Steam/Sprinkler Fitter	$43.76	$25.44	$69.20
Pipelayers	$27.48	$4.72	$32.20
Plumbers	$38.75	$22.96	$61.71
Pump Operators - Except Wellhead Pumpers	$56.03	$34.76	$90.79
Radio Cellular And Tower Equipment Installers	$30.00	$4.85	$34.85
Reinforcing Iron And Rebar Workers	$56.69	$2.27	$58.96
Riggers	$31.95	$25.00	$56.95
Roofers	$29.00	$0.00	$29.00
Sheet Metal Workers	$28.38	$5.82	$34.20
Structural Iron And Steel Workers	$31.95	$25.00	$56.95
Tapers	$29.00	$2.02	$31.02
Telecommunications Equipment Installers And Repairers - Except Line Installers	$33.44	$9.75	$43.19
Telecommunications Line Installers And Repairers	$40.99	$20.56	$61.55

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 ____________________________

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

Expiration Date: 12-31-2025
Revision Date: 2-3-2025

SECTION 01 11 00
SUMMARY OF WORK

PART 1 GENERAL

1.01 SUMMARY

A. The project consists of the following:

1. Concrete repair work includes but is not limited to:

    a. Repair areas of cracked concrete as indicated on the Contract Documents.

    b. Repair areas of spalled concrete (shallow and deep) on vertical foundation wall locations as indicated on the Contract Documents.

    c. Repair of cracked concrete as indicated on the Contract Documents.

    d. Scrape, clean, prime, and coat exposed steel reinforcement components prior to performing concrete spall repairs.

    e. Clean and restore all areas affected by the work

2. Masonry restoration work includes but is not limited to:

    a. Removal and reinstallation and replacement of existing brick masonry to facilitate through-wall flashing installation.

    b. Remove and replace areas of damaged and/or deteriorated brick masonry.

    c. Repairs to stepped cracked brick masonry.

    d. Repointing of brick and cast stone masonry joints.

    e. Provide retrofit helical masonry veneer ties where indicated.

    f. Repairs to cracked, delaminated and spalled cast stone elements including but not limited to:
        1) Band and Belt Courses
        2) Watertables
        3) Quoins and Medallions
        4) Window mullions

    g. Replacement of cast stone elements.

    h. Clean masonry, including removal of plant growth, atmospheric staining and efflorescence.

3. Rough carpentry work includes but is not limited to:

    a. Installation of new wood blocking at roof penetrations, roof perimeters, roof to wall locations, and as required to properly terminate the new roofing and flashing systems.

    b. Remove and replace any deteriorated wood blocking designated to remain.

    c. Replacement of deteriorated one inch (1”) wood plank roof deck.

4. Roofing replacement work includes but is not limited to:

    a. Removal and disposal of existing roofing materials, including but not limited to roof membrane, membrane flashings, sheet metal flashings, insulations and associated components down to the existing roof deck to remain.

    b. Remove all existing base flashings. Remove other existing flashings such as unit curbs, pitch pockets, sheet metals, and other components as required to properly complete the work.

    c. Furnishing and installing a new adhered single-ply elastomeric membrane roofing assembly including, but not limited to, elastomeric membrane, coverboard, rigid flat and tapered insulation, air/vapor retarder and base board over the roof deck.

    d. All roof membrane field seams shall be stripped in with a single 6” wide EPDM stripping membrane.

    e. Installation of roof walkway pads.

5. Sheet Metal and Flashing work includes but is not limited to:

    a. Perimeter roof gravel stop edge and fascia sheet metal flashing.

    b. Gutter with integral drip and downspout.

    c. Brick masonry throughwall flashing and counterflashing.

    d. Door threshold flashing.

6. Hollow Metal Door and Frame includes but is not limited to:

    a. Removal and disposal of existing roof access wood door, frame, hardware, and weatherstripping.

    b. Furnish and install new thermally broken and insulated hollow metal roof access door and frame with factory glazed insulated glass vision lite. Refer to Section 08 80 00 for glass requirements.

    c. Furnish and install new door hardware and weatherstripping.

7. Glass and Glazing work includes but is not limited to:

    a. Remove and dispose existing broken glass in existing steel windows, including existing glazing putty and steel sash clips at locations indicated on the Contract Drawings.

    b. Provide replacement glass in existing steel windows with new historic replicating glass, including new glazing putty and steel sash clips.

    c. Provide insulating glass vision lite for new hollow metal roof access door at the location indicated on the Contract Drawings. The vision lite shall be factory installed.

8. Painting includes but is not limited to:

    a. Prepare, prime, and paint exterior and interior surfaces of new roof access hollow metal door and frame.

b. Removal of existing masonry coating for repairs to cast stone elements and application of new masonry coating to the repaired cast stone elements to match existing coated surfaces.

9. Plumbing work includes but is not limited to:

   a. Removal of existing aluminum drain inserts and cast-iron drain bowls, and accessories.

   b. Installation of new cast iron drain bowls, clamping rings, drain strainers, accessories and associated roof drain plumbing work.

Bid Schedule:

Non-mandatory pre-bid meeting:	Wednesday, March 12, 2025 at 1:00pm
Questions Due:	Tuesday, March 18, 2025 by 2:00pm
Response to Questions by:	Thursday, March 20, 2025 by 2:00pm
Bids received until:	Tuesday, March 25, 2025 at 1:00pm
Substantial completion date:	Friday, August 15, 2025

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.

PART 2 to 3 – Not Used

END OF SECTION 01 14 00

SECTION 01 23 00
ALTERNATES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes administrative and procedural requirements for alternates.

PART 2 PRODUCTS - (Not Used)

PART 3 EXECUTION

3.01 SCHEDULE OF ALTERNATES

A. **Bid Alternate #1** – All work as identified on Partial South Elevation – Detail 1/A201 and as referenced elsewhere in the Contract Documents. This Alternate excludes historic glass replacement.

B. **Bid Alternate #2** – All work as identified on Partial South Elevation – Detail 5/A202 and as referenced elsewhere in the Contract Documents. This Alternate excludes historic glass replacement.

C. **Bid Alternate #3** – All work as identified on Partial East Elevation – Detail 6/A203 and as referenced elsewhere in the Contract Documents. This Alternate excludes historic glass replacement.

D. **Bid Alternate #4** – All work as identified on Partial North, East and West Elevations Details 7 and 8/A203 and Details 9 and 10/A204 and as referenced elsewhere in the Contract Documents. This Alternate excludes historic glass replacement.

E. **Bid Alternate #5** – All work as identified on Partial West Elevation – Detail 11/A204 and as referenced elsewhere in the Contract Documents. This Alternate excludes historic glass replacement.

F. **Bid Alternate #6** – All work as identified for Historic Glass Replicating Glass Replacement and as referenced elsewhere in the Contract Documents.

END OF SECTION 01 23 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

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

CONCRETE REPAIRS

SECTION 03 30 00

PART 1 - GENERAL

1.1 IN GENERAL

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

B. Refer to all sections within Division 01 for additional information.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Section 01 23 00 - Alternates
B. Section 04 01 20 - Masonry Restoration and Cleaning

1.3 SCOPE OF WORK

In general, the Contractor shall supply all labor, equipment, staging, temporary protection, tools and appliances necessary for the proper completion of the work in this section, as required in the specification and in accordance with good construction practice. The work under this Section includes, but is not limited to, the following:

A. Repair areas of cracked concrete as indicated on the Contract Documents.

B. Repair areas of spalled concrete (shallow and deep) on vertical foundation wall locations as indicated on the Contract Documents.

C. Repair of cracked concrete as indicated on the Contract Documents.

D. Scrape, clean, prime, and coat exposed steel reinforcement components prior to performing concrete spall repairs.

E. Clean and restore all areas affected by the work.

1.4 ALTERNATES

A. Technical requirements for related Alternate work are defined in this section. Refer to Division 01 Section “Alternates” for scope of work and provided on the Bid Form.

1.5 SUBMITTALS

A. Submittals shall be made in accordance with the General Conditions.

B. Product data for proprietary materials and items including all products, aggregates, topcoats, repair mortar, and others as requested by the Engineer.

C. Safety Data Sheet (SDS) for each product used.

D. Submit associated equipment and materials list including, but not limited to, surface preparation equipment and methods used, bonding agents, etc.

E. Submit means and methods proposed for curing and protecting all repairs, and for masking surrounding surfaces, and protecting public from work areas, etc.

1.6 JOB CONDITIONS

A. The Contractor shall supply, install and maintain all shoring, supports, barriers, protection, warning lines, lighting and personnel required to support the structure, fixtures and facilities affected by the work and segregate the work area(s) from pedestrian or vehicular traffic, as well as to prevent damage to the building, occupants and the surrounding landscaped and paved areas.

B. Materials which have a temperature other than the application temperatures of the manufacturer shall not be applied. Comply with manufacturer's written instructions for substrate temperature, ambient temperature, moisture and other conditions affecting concrete repairs.

C. Coordinate the Work in this Section with the work by other trades to ensure the orderly progress of the Work.

D. Under no circumstances shall the Contractor remove existing materials and systems to the ground in an uncontrolled manner. Machinery or devices used shall be manufactured for this purpose. Adjacent building and property areas shall be protected from airborne debris.

E. During surface preparation operations, the Contractor is responsible for the containment of all dust, dirt, debris, overspray and run-off resulting from the work. The Contractor shall collect and contain all materials and repair any resulting damage to adjacent surfaces, site fixtures, personal property, or adjacent repairs. Specific attention is drawn to the use of chemicals, cleaners and pieces of demolished concrete.

1.7 QUALITY ASSURANCE

A. The contractor must coordinate site visits with appropriate manufacturer's field representative to view surface preparations, material mixing, application procedures, and curing operations for each different material. Refer to Part G "TEST AREAS".

B. The contractor shall utilize skilled and experienced specialty workers to perform the work. The intent of these repairs is to use methods and products as outlined in Part Two and Three in this specification.

C. Sound all concrete designated for repair via an approved sounding technique prior to performing repairs.

D. The contractor shall provide all means, methods, equipment, etc. as necessary to conform to current ACI and ICRI curing recommendations and requirements.

E. Under no circumstance shall the contractor move existing materials and systems to the ground in an uncontrolled manner. Machinery or devices used shall be protected from airborne debris.

F. Materials which have a temperature other than the application temperatures of the manufacturer shall not be applied. Comply with manufacturer's written instructions for substrate temperature, ambient temperature, moisture and other conditions affecting concrete repairs.

G. Test Areas:
1. Before full-scale work is commenced, execute the following work for trial work areas to be reviewed by the Manufacturer's Field Representative as to surface preparation and material mixing and application acceptability.
2. One (1) concrete spall repair. Minimum one square foot (1 sq. ft.) each, including cleaning and coating of existing rebar (if applicable).
3. One (1) concrete crack repair. Minimum one linear foot (1 l.f.) each.
4. One (1) stair repair. Minimum one square foot (1 sq. ft.) each.
5. Repairs shall conform to the Contract Documents and manufacturer's instructions and once accepted shall become a standard for all subsequent work.
6. Trial areas shall be repeated until acceptable results are obtained and the accepted areas shall be a standard for all subsequent work. Construction of test areas shall be in conformance with all Contract Documents and shall use only submitted materials. After curing, the test areas shall be viewed, sampled, and/or removed as directed by the Manufacturer's Field Representative to establish to his satisfaction the actual performance of the installed materials. Evidence of improper or unsatisfactory performance shall be grounds for rejection of any or all of the submitted or applied materials.

1.8 DIMENSIONS AND QUANTITIES

A. All dimensions and quantities shall be determined or verified by the Contractor, this includes, but is not limited to, performing concrete sounding to verify limits of concrete deterioration. Quantities to be carried under the base bid work have been shown on the Contract Drawings. Additional quantities have been carried under each item as Unit Price scope of work, refer to Section 01 22 00 - Unit Prices for additional information. The Contract Drawings have been compiled from various sources and may not reflect the actual condition at the moment of construction. The Contractor is cautioned to take all precautions and make all investigations necessary to install the proposed work. The Owner will not consider unfamiliarity with the job conditions as a basis for additional compensation.

1.8 REFERENCES

A. The Codes and Standards specified herein are based in the English (U.S. Customary) system. Substitution of SI Metric equivalents is not acceptable.

B. AMERICAN CONCRETE INSTITUTE (ACI)
   1. Standard Specifications for Structural Concrete" (ACI 301) by American Concrete Institute, herein referred to as ACI 301, is included in total as specification for this structure except where more stringent requirements are shown on Contract Drawings or specified herein.
   2. "Building Code Requirements for Reinforced Concrete" (ACI 318), American Concrete Institute, herein referred to as ACI 318.
   3. "Causes, Evaluation, and Repair of Cracks in Concrete Structures" (ACI 224, 112), American Concrete Institute.
   4. "Standard Specification for Bonding Hardened Concrete, Steel, Wood, Brick, and Other Materials to Hardened Concrete with a Multi-Component Epoxy Adhesive" (ACI 503.1), American Concrete Institute.
   5. "Hot Weather Concreting," reported by ACI Committee 305 (ACI 305R).
   6. "Cold Weather Concreting" reported by ACI Committee 306 (ACI 306R).

C. Comply with provisions of following codes, specifications, and standards except where more stringent requirements are shown on Contract Drawings or specified herein.

D. International Concrete Repair Institute (ICRI).

E. Concrete Reinforcing Steel Institute (CRSI).

F. Steel Structures Painting Council (The Society for Protective Coatings) [SSPC].

G. American Society of Testing and Materials (ASTM).

1.9 CLEANUP

A. Site cleanup shall be complete and performed daily to the satisfaction of the Owner.

B. All building (interior and exterior) components landscaped and paved areas shall be cleaned of all trash, debris and dirt caused by or associated with the work.

C. All trash and debris shall be completely removed from the site daily during work and at the completion of the work. All debris shall be legally disposed of off-site.

1.10 WARRANTIES

A. Upon completion of the work and prior to final payment, the Contractor shall submit a guarantee of his work as free from defect in materials and workmanship. The guarantee shall be for a period of two years (2 yrs.). The guarantee shall be signed by an officer of the Contractor's firm and sealed if a corporation.

PART 2 - PRODUCTS

2.1 SALVAGED MATERIALS AND ITEMS

A. All building materials, equipment, and debris of whatever nature from the portions of the existing structure, removed under this Project, shall become the property of the Contractor and legally disposed of off-site.

2.2 FORM MATERIALS

A. Plywood for forms shall conform to U.S. Product Standard PS-1, B-B Plyform Class 1 Exterior Grade, and shall have a minimum thickness of five-eighths inch (5/8”).

B. Form coatings shall be non-staining and non-oily and shall be subject to the approval of the Owner.

C. Framing, Studding, and Bracing shall be "Standard" or "Construction" grade Douglas fir, rough or S4S, conforming to the Grading Rules for Western Lumber published by the Western Wood Products Association.

2.3 CONCRETE REPAIR MORTAR

A. Repair mortar for partial-depth (less than three inches [< 3”]) spall: Repair on vertical and overhead surfaces shall be a one-component, polymer-modified, high performance, rapid setting, non-sag, early strength gaining, low resistivity cementitious, patching material such as:
1. SikaQuick VOH, as manufactured by Sika Corporation.
2. SPEED CRETE PM, as manufactured by Euclid Chemical.
3. MasterEmaco N400, as manufactured by Master Builders Solutions.
4. Or approved equal.

B. Repair mortar for full-depth (three inches [3”]) or more) spall: Repair on vertical and overhead surfaces shall be a one-component, cementitious, polymer-modified, self-consolidating concrete mix with an integral migrating corrosion inhibitor patching material such as:
1. SikaCrete 211 SCC, as manufactured by Sika Corporation.
2. EUCOREPAIR SCC, as manufactured by Euclid Chemical.
3. MasterEmaco N400, as manufactured by Master Builders Solutions.
4. Or approved equal.

2.4 SPALL REPAIR ACCESSORY MATERIALS

A. Fasteners for concrete spalls that exceed one- and one-half inches (1½”) in depth shall be minimum one- and one-half inches (1-½”) long by one-quarter inch (¼”) diameter drive pins in stainless steel sheaths as manufactured by Star, Rawl, Hilti, or Engineer approved equal. Embedment into substrate shall be one- and one-quarter inch (1-¼”) minimum. It is recommended that stainless steel pins have through-holes at exposed ends to accept tie wire.

B. Wire mesh to drape over spall fasteners shall be two-inch by two-inch (2" x 2") by 14-gauge stainless steel or epoxy coated.

C. Burlap for curing patches shall be heavyweight burlap cloth.

D. Polyethylene for curing patches shall be a six millimeter (6-mil) polyethylene plastic sheet, or Engineer approved equal.

2.5 MORTAR BONDING/LEVELING MORTAR

A. Bonding agent for application onto prepared concrete spall repair substrates as well as anti-corrosion coating for cleaned steel reinforcement shall be:
   1. Sika Armatec 110 EpoCem: Sika Corporation, Lyndhurst, NJ.
   2. Rebar Primer and Bonding Agent: ThoRoc/ BASF, Florham Park, NJ.
   3. Emaco P24: MasterBuilders/ BASF, Florham Park, NJ.

2.6 CRACK ROUT AND SEAL

A. Sealant for crack repairs shall be a two-component, non-sagging, solvent-free, moisture tolerant flexible epoxy sealer and adhesive such as Sikadur 51 ns as manufactured by Sika Corporation or approved equal.

2.7 ACCESSORY MATERIALS

A. Sealant: Single-component, neutral-curing, non-staining silicone sealant to comply with ASTM C 920 Type M, Grade NS, Class 25 or as recommended by the coating system manufacturer for use at concrete to metal railing joints.

B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

C. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

D. Masking materials shall be commercially available masking or duct tape of appropriate width. Self-adhesive materials shall be completely strippable, leaving no adhesive residue when removed.

E. Fasteners for concrete spalls that exceed one- and one-half inches (1-½") in depth shall be minimum one- and one-half inches (1-½") long by one-quarter inch (¼") diameter drive pins in stainless steel sheaths as manufactured by Star, Rawl or equal. Embedment into substrate shall be one- and one-quarter inch (1-¼") minimum. It is recommended that stainless steel pins have through holes at exposed ends to accept tie wire.

F. Type 304 stainless steel or hot dip galvanized wire mesh to be wrapped around drive pins for concrete spalls that are in excess of one- and one-half inches (1-½") deep shall be a two-inch by two-inch (2" x 2") grid mesh, 14-gauge wire (minimum).

G. Burlap for curing patches shall be heavyweight burlap cloth.

H. Forming materials shall be provided to install the repairs as outlined in the Contract Drawings. Forms shall be smooth and flat materials to provide a smooth and uniform concrete repair surface.

PART 3 - EXECUTION

3.1 GENERAL WORKMANSHIP

A. Do not deliver to site or install any material or system that has not been approved. Materials installed without approval may be required to be removed at no additional cost to the Owner.

B. The prepared concrete surfaces must be dry, clean and smooth. Provide dryers, if necessary, to dry concrete surfaces prior to installing new work. Open flame devices shall not be used.

C. Comply with the manufacturer's written instructions and these Specifications for all renovations and associated work.

D. Partial or unmarked cans or rolls of materials cannot be used.

E. Verify that all surfaces have been demolished to the specified depth and surface profile, and thoroughly cleaned for the areas to receive repairs.

F. Do not leave any partially completed sections exposed to the elements overnight. Provide all devices and protection (including heaters, dehumidification, ventilation, etc.) necessary to maintain areas and surfaces at the proper temperature, humidity, and surface moisture content for the curing of repair mortar, epoxy, and other materials.

G. No concrete repair work shall be executed when the temperature in the work areas has dropped below fifty degrees Fahrenheit (< 50ºF) , unless heated. Consult the manufacturers of the materials for proper application and storage procedures.

H. In all cases, the prepared surfaces ready to receive concrete repair and coating work, shall be maintained with adequate temporary protection to keep atmosphere and construction related contaminants (dust, debris, water, dirt, laitance, grease, oil, coating overspray, etc.) or any bond inhibiting contaminants from depositing on the prepared surfaces.

I. The contractor shall coordinate all project phasing to avoid delays in the work. Surface contamination or repeated surface preparation and cleaning will not be cause for additional contract cots or extensions of contract time.

J. The contractor shall submit a phasing diagram and work schedule with his bid submission. The phasing diagram and work schedule shall be updated and submitted to the Owner on a weekly basis during the progress of the work.

K. The contractor shall perform concrete sounding to verify limits of concrete deterioration. Contractor shall notify the Owner and Engineer when quantities exceed that indicated in the Contract Documents prior to performing repair work.

3.2 HANDLING, STORAGE, AND PROTECTION OF MATERIALS

A. Handle and store materials separately in such manner as to prevent intrusion of foreign matter, segregation, or deterioration. Do not use foreign materials or those containing ice. Remove improper and rejected materials immediately from point of use. Cover materials, including steel reinforcement and accessories, during construction period. Stockpile concrete constituents properly to assure uniformity throughout project.

B. Do not deliver to site or install any material or system that has not been approved. Materials installed without approval may be required to be removed at no additional cost to the Owner.

C. Partial or unmarked cans or rolls of materials cannot be used.

3.3 SURFACE CLEANING

A. All surfaces to receive spall and epoxy injection repairs shall be free from all surface contaminants and thoroughly washed, using high-pressure water. All building components and public shall be protected from these procedures at all times.

B. All effluent shall be collected and properly disposed of.

C. Mask and protect adjacent surfaces and components to remain with polyethylene sheeting, or similar sheeting as approved by the Engineer.

D. During surface preparation operations, the Contractor is responsible for the containment of all dust, dirt, debris, overspray and run-off resulting from the Work. The Contractor shall collect and contain all materials and repair any resulting damage to adjacent surfaces, site fixtures, personal property, or adjacent repairs. Specific attention is drawn to the use of chemicals, cleaners and pieces of demolished concrete.

3.4 CONCRETE SPALL REPAIRS

A. Remove areas of spalled, delaminating, cracked, lose or otherwise unsuitable concrete from the slab surface. Define all repair areas with one-quarter inch (¼”) deep saw cut. Undercut or "key" in spall repair edges on at least two (2) opposite sides to mechanically retain the repair. Cuts shall not overlap at corners.

B. Using hand and electric power tools (fifteen-pound [15 lb.] maximum chipping hammers) remove all areas of deteriorated, delaminating, de-bonded, spalled or otherwise damaged concrete from existing surfaces, extending three-quarter inch (¾") minimum around rebar, as required to install the new work. Sound concrete areas adjacent to cracks to determine additional spall areas. Removal of deteriorated concrete and surface preparation shall be completed as recommended by the patching mortar manufacturer and as outlined within these Specifications. Do not cut existing steel reinforcement.

C. Prepare the surface of the existing concrete to receive the bonding agent and repair mortar. Provide a one-eighth inch (⅛") minimum aggressive surface profile with fractured aggregate (ICRI-CSP 8 or CSP 9). Tool marks should be visible. Examine substrate for cracks and treat with specified crack repair procedure.

D. Should exposed reinforcing system exist within the spalled area, refer to Part 3.5 "Existing Reinforcing Steel at Spall Repairs" section. Do not apply spall repair material over corroded reinforcing.

E. Completely remove all dust, grease, and other impurities via high-pressure water wash, combined with wire brushes, chipping, grinding, or other methods as required to achieve acceptable bonding surfaces. Dampen the existing surface area with clean potable water, to obtain saturated-surface-dry (SSD) conditions.

F. Apply coating/bonding agent to all substrate surfaces and reinforcing steel as recommended by the repair mortar manufacturer. Provide one (1) coat on concrete substrates and two (2) coats on all steel items. Slurry scrub repair mortar into prepared damp substrates.

G. Install repair mortar to properly prepared areas within a time period to achieve a "wet-on-wet" mortar application. Mix repair mortar in accordance with the material manufacturer's instructions. At vertical spall repairs with a depth greater than one- and one-half inches (> 1-½"), provide pinning and mesh reinforcement. Utilize the manufacturer's recommended mix rates.

H. Vertical spall locations that exceed one- and one-half inches (> 1-½") depth shall have specified drive pins installed into the substrate. Drive pins shall be spaced eight inches (8") maximum on-center with a minimum of two (2) pins per spall, and have stainless steel wire or hot-dip galvanized wire wrapped throughout the repair to act as a reinforcement line upon installation of the patching materials.

I. The concrete substrates require wetting with water to obtain SSD conditions prior to installing the bonding agent. Consult with the manufacturer's instructions prior to initiating repairs.

J. Finish the repairs flush with the existing surfaces. Ensure that the surface, texture, and profile is roughed and textured to match surrounding concrete and to achieve proper mechanical bond with the later applied coating primer. Do not feather edge repairs, but install in one-quarter inch (¼”) minimum applications, or as otherwise limited by each materials manufacturer’s limitations.

K. Clean uncured materials off of undesired areas with a moist sponge or cloth immediately after application.

L. Provide for proper cure of patch as recommended by the repair material manufacturer. At a minimum, curing shall consist of wet burlap placed over the repair area, continuously wetted to provide a consistently moist burlap, and enclosed with polyethylene, duct taped to the adjacent surfaces. Curing materials shall remain in place for the minimum manufacturer’s specified time based upon surface and ambient temperatures and humidity.

M. Concrete stair treads shall be repaired in a similar manner to typical concrete spall repairs. Provide form work to install repair mortar to match surround stair shape and size. Coordinate stair tread repairs to allow for installation of new stair tread nosing.

N. No coating work shall be performed when the temperature in the work areas has dropped below fifty degrees Fahrenheit (< 50ºF), unless heated. Consult the manufacturers of the materials for proper application and storage procedures.

3.5 <u>EXISTING REINFORCING STEEL AT SPALL REPAIRS</u>

A. Perform surface preparation as described in this section and as recommended by the repair mortar manufacturer. Should reinforcing bars be encountered, perform the following work:

1. All existing exposed reinforcing steel bars which have rust (greater than mild surface rusting) that extends to the back of the bar, or where concrete has cracked due to expansive forces from corroding steel, shall have the concrete removed from the full circumference of the bars to provide a minimum clearance of three-quarter inch (¾”) all around. If more than one half (> ½) of any bar diameter is exposed during demolition, remove concrete from the full circumference of bar with minimum three-quarter inch (¾”) clearance all around.

2. Reinforcing steel must be mechanically or sandblast cleaned and free of rust, scale, grease, oil, and other bond-inhibiting matter in accordance with SSPC - SP11, at a minimum, and as required by the rebar coating/boding agent manufacturer. This can be accomplished using power tools, sandblasting, or similar approved methods.
3. Miscellaneous embedded steel items requiring cleaning shall be sand-blasted or mechanically ground to bright steel.
4. After cleaning reinforcement to bare metal, thoroughly examine and determine section loss. Bars with twenty-five percent or greater (25% >) section loss shall receive supplemental steel. New steel bars shall be placed and tied alongside of existing corroded bar at same depth where possible. Bar lap shall be developed thirty (30) bar diameters, each end, beyond point of corroded bar. Remove additional concrete as required to fit bar and

develop lap lengths. New bar diameter shall match existing nominal bar diameter prior to corrosion. In all cases, new reinforcement shall have a minimum cover of one- and one-half inches (1-½”).

5. At discontinuous ends of reinforcement, or where thirty (30) bar diameter lap is not possible, supplemental reinforcement may be drilled and epoxied into the substrate adjacent to existing corroded bars. Drill hole one-quarter inch (¼”) diameter larger than bar diameter at a depth ten times (10x) the bar diameter. Maintain a minimum two-inch (2”) cover and edge distance at all drilled hole locations. Clean hole and fill with a high modulus, high-strength, structural epoxy paste adhesive conforming to ASTM C-881 and AASHTO M-235 specifications.
6. Apply epoxy coating/bonding agent to all exposed steel and concrete bonding surfaces using brushes in strict accordance with the bonding agent manufacturer’s written requirements. Use two (2) coats on steel, and one (1) coat on concrete substrates.
7. Apply repair mortar as specified and recommended by the manufacturer.
8. Clean areas adjacent to the repair area prior to curing with a moist sponge or cloth immediately after application.
9. Apply all curing materials and techniques as specified in this Section.

3.6 ROUTING AND SEALING OF CONCRETE CRACKS AND JOINTS

A. Crack Preparation:

1. Rout or “vee” crack by saw cutting to a minimum depth of one-half inch (½").
2. Clean the routed crack and adjacent area of all loose material with high pressure air to blow the crack clean.
3. Clean all substrates to receive the sealant using the manufacturers recommended cleaners and surface preparation techniques. The removal and cleaning of sealants and adhesives shall be as specified herein and in accordance with the sealant manufacturer’s written recommendations.
4. Clean each previously prepared bonding surface with applications of the manufacturers recommended solvent and clean white rags. Apply solvent by brush and wipe surfaces clean. Repeat a minimum of two times (2x), more often if necessary.
5. Primer shall be applied to all properly prepared, cleaned and dry substrates. Primer shall be recommended and approved by the sealant manufacturer for each substrate and shall be completely compatible with the existing materials and proposed sealants and accessories.
6. Primer shall be applied and allowed to dry prior to the application of the sealant.

B. Sealant:

1. Precondition sealants to a temperature between sixty- and seventy-five degrees Fahrenheit (60ºF - 75ºF) or as required by the manufacturer. Apply sealant to clean dry surfaces only when the ambient temperature is between sixty- and eighty-five degrees Fahrenheit (60ºF - 85ºF).
2. All sealants shall be applied to clean, dry joints by knife, trowel, manual or air pressure caulking guns using proper nozzle sizes.

3. Sealant shall be forced into the joint to completely fill the void and achieve full “wet out” of the bonding surfaces. Force sealant into the joint and against the sides of the joint. Avoid pulling sealant from sides.
4. Tool sealant immediately to assure full adhesion. Sealant shall be dry tolled to be straight, uniform, smooth and neatly finished to the profiles detailed and to shed water. No soaps, wetting or slicking agents will be allowed.

3.7 CURING AND PROTECTION

A. The Contractor shall provide all means, methods, equipment, etc. as necessary to achieve satisfactory surface moisture content for as long a duration as required for proper application and curing of the specified materials.

B. Protect concrete work against injury from heat, cold, and defacement of any nature during construction operations.

3.8 FIELD QUALITY CONTROL

A. Cooperate with field quality control personnel. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.

B. Additional inspections and retesting of materials which fail to comply with specified material and installation requirements shall be performed at Contractor's expense.

3.9 CLEANING

A. During removal operations, the Contractor is responsible for the containment of all dust, dirt, debris, overspray, and run-off resulting from the work. The Contractor shall collect and contain all materials and repair any resulting damage to adjacent surfaces, site fixtures, or personal property. Specific attention is drawn to the use of chemicals and cleaners.

B. Prior to acceptance of the repair work covered in this section, the Contractor shall perform a thorough cleanup of the work site, building surfaces, landscaping, etc. Any items damaged shall be repaired or replaced to the satisfaction of and at no additional cost to the Owner.

C. Site cleanup shall be complete and performed daily to the satisfaction of the Owner.

D. All building (interior and exterior), roof areas, landscaped, and paved areas shall be cleaned of all trash, debris, and dirt caused by, or associated with, the work.

E. All trash and debris shall be completely removed from the site daily during the work and at the completion of the work. All debris shall be legally disposed of off-site.

END OF SECTION

MASONRY RESTORATION AND CLEANING
SECTION 04 01 20

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

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

B. Refer to all sections within Division 01 for additional information.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Section 01 23 00 - Alternates
B. Section 03 30 00 - Concrete Repairs
C. Section 06 10 00 - Rough Carpentry
D. Section 07 53 20 - Elastomeric Roofing and Flashing
E. Section 07 62 00 - Sheet Metal Flashing and Trim
F. Section 08 11 10 - Hollow Doors and Frames
G. Section 09 91 00 - Painting

1.3 SCOPE OF WORK

A. In general, the Contractor shall supply all labor, equipment, temporary protection, tools, and appliances necessary for the proper completion of the work as required in the Specifications, in accordance with good roofing practice, and as required by the materials manufacturer, as amended. The work under this Section generally includes the following:

B. Removal and reinstallation and/or replacement of existing brick masonry to facilitate through-wall flashing installation.

C. Remove and replace areas of damaged and/or deteriorated brick masonry.

D. Repairs to stepped cracked brick masonry.

E. Repointing of brick and cast stone masonry.

F. Provide retrofit helical masonry veneer ties where indicated.

G. Repairs to cracked, delaminated and spalled cast stone elements including but not limited to:
1. Band and Belt Courses.
2. Water tables.
3. Quoins and Medallions.
4. Window mullions.

H. Replacement of cast stone elements.

I. Clean masonry, including removal of plant growth, atmospheric staining and efflorescence.

J. Refer to the Contract Drawings for locations of work to be performed.

1.4 UNIT PRICES

A. Technical requirements for related Unit Price work are defined in this section. Refer to the Bid Form for quantities to be carried in the Unit Price Items.

1.5 ALTERNATES

A. Technical requirements for related Alternate work are defined in this section. Refer to Division 01 Section “Alternates” for scope of work and provided on the Bid Form.

1.6 SPECIAL JOB CONDITIONS

A. The building occupants are highly sensitive to fumes, odors, noise, and disturbances. The Contractor shall submit a detailed sequence schedule for the roof area prior to the start of work and shall coordinate daily schedules with the Owner.

1.7 JOB CONDITIONS

A. The Contractor shall supply, install and maintain all shoring, supports, barriers, protection, temporary heat, warning lines, lighting and personnel required to support the structure, fixtures and facilities affected by his work and segregate the work area(s) from pedestrian or vehicular traffic, as well as to prevent damage to the building, occupants and the surrounding landscaped and paved areas.

B. The Contractor shall utilize skilled and experienced specialty workers having the specified minimum experience in historic masonry restoration to perform the work, in accordance with requirements listed herein. Experienced trade workers shall be utilized for all aspects of the masonry work.

C. Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.

D. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

E. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

F. Prepare, install, and cure all materials in accordance with these Specifications, Brick Institute of America (B.I.A.) Technical Notes, and Manufacturer's Printed Instructions.

G. Provide brick or concrete masonry units as required to replace units damaged during removal and replacement.

1.8 DEFINITIONS

A. Cast Stone - a refined architectural concrete building unit manufactured to simulate natural cut stone.
   1. Dry Cast: Manufactured from zero- slump concrete.
   2. Vibrant Dry Tamp (VDT) casting method: Vibratory ramming of earth moist, zero-slump concrete against a rigid mold until it is densely compacted.
   3. Machine casting method: Manufactured from earth moist, zero-slump concrete compacted by machinery using vibration and pressure against a mold until it becomes densely consolidated.
   4. Wet Cast: Manufactured from measurable slump concrete.
   5. Wet casting method: Manufactured from measurable slump concrete and vibrated into a mold until it becomes densely consolidated.

1.9 SUBMITTALS

A. Submittals shall be made in accordance with the General Conditions and Divisions 01.

B. The Contractor shall submit the following items with their Bid package.
   1. Minimum (3) references for each foreman and mason; they shall demonstrate a track record of having successfully provided historic masonry restoration of similar scope and significance. Masons must demonstrate an ability to work with historic stone and mortar.

C. Product Data: For each type of product indicated. Include recommendations for application and use. Include test data substantiating that products comply with requirements.
   1. For cast stone units include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

D. Qualification Data: For Manufacturer and Testing Agency
   1. Include copies of material test reports for completed projects, indicating compliance of cast stone with ASTM C1364.

E. Material Test Reports: For each mix required to produce cast stone, based on testing according to ASTM C1364, including test for resistance to freezing and thawing.
   1. Provide test reports based on testing within the previous two years (2 yrs.).

F. Samples for Verification: Before erecting mockup, submit samples of the following:
   1. Each type of exposed masonry unit to be used for replacing existing units.

a. For each brick type, provide straps or panels containing at least four (4) bricks.
b. Submit cast stone samples: showing complete range of bedding, color, texture and finish for each specified type. Samples taken from the building shall be washed with the specified products and procedures prior to being shipped to supplier for matching. If approved by the engineer, the samples may be incorporated into the work.

2. Each type of sand is used for pointing mortar.
   a. For blended sands, provide samples of each component and blend.
   b. Identify sources, both supplier and quarry, of each type of sand.
3. Each type of pointing mortar in the form of sample mortar strips, six inches long by one-half inch wide (6" L x ½" W), set in aluminum or plastic channels.
   a. Include with each sample a list of ingredients with proportion of each. Identify sources, both supplier and quarry, of each type of sand and brand names of cementitious materials and pigments if any.
4. Each type of masonry patching compound in the form of briquettes, at least three inches long by one- and one-half inches wide (6" L x 1-½" W). Document each sample with manufacturer and stock number or other information necessary to order additional material.

G. <u>Qualification Data</u>: For restoration specialists including field supervisors and manufacturers.

H. <u>Restoration Program</u>: For each phase of the restoration process, provide detailed description of materials, methods, equipment, and sequence of operations to be used for each phase of restoration work including protection of surrounding materials on building and Project site.
   1. Include methods for keeping pointing mortar damp during curing period.
   2. If materials and methods other than those indicated are proposed for any phase of restoration work, provide written description, including evidence of successful use on comparable projects, and a testing program to demonstrate their effectiveness for this Project.

I. The Contractor shall submit the following procedural items with their submittal package:
   1. Written plan of masonry restoration.
   2. Scaffolding, shoring and shuttering plans, demonstrating a comprehensive understanding for removals and re-assembling of the spire to re-create the original spire and improved back-up in-kind.
   3. Shoring Plan, stamped by a licensed Maine Professional Engineer.
   4. Methods of removal of materials, including specific methods of removal of historic mortar.
   5. Temporary protection procedures
   6. Staging/set-up procedures
   7. Program for containment of cleaning procedures

J. Submit certification that aggregates for masonry mortar comply with specified requirements including void ratio, color, size and grading requirements.
  1. Submit aggregate sample.

K. Proposed Mortar Mix Design:
  1. Prior to commencing concrete work submit and obtain Engineer's approval of certified test report describing proposed mortar mix design, including:
  2. Fine Aggregates - Source, type, gradation, deleterious substances, and saturated surface dry specific gravity (ASTM C128).
  3. Ratio of fine to total aggregates.
  4. Weight (surface dry) of each aggregate per cubic yard.
  5. Total water content (gallons) per cubic yard and proposed source.
  6. Slump on which design is based.
  7. Brand, type and quantity of cement.
  8. Anticipated seven (7) days and twenty-eight (28) days compressive strength.

L. Historic Repointing Mortar: It is the intent of the project to match the original historic pointing mortar that is in place. Three (3) samples of existing mortar, and three (3) samples for each type of proposed mortar will be required to demonstrate that the proposed mortar matches the original mortar, with more tests on proposed mortar until the results are deemed satisfactory. Submit test results per ASTM C1713 of field sampled approved mortar mix designs for masonry operations. Testing shall be performed prior to construction by a qualified testing agency. One quarter (¼) and mid-way through masonry procedures, retest mortar to confirm consistency of mortar throughout the project.
  1. Utilize ASTM C1324 for testing existing mortars. Qualified firms, as approved by the Engineer, may be utilized as testing agency and mortar supplier. Testing has not been performed by the Design team.
  2. Submit test results for prepared mortars in compliance with ASTM C1713: Test for water retention per ASTM C1506, test for air content per ASTM C270 and test for compressive strength per ASTM C109.

M. Submit shop drawings indicating quantity, size, shape and profile of replacement cast stone types. Cast stone replacement measurements shall be developed by matching stones removed from the building. No stones shall be fabricated until the stone to be replaced is removed and shop drawings are approved.
  1. Show fabrication and installation details for cast stone units. Include dimensions, details of reinforcement and anchorages if any, and indication of finished faces.
  2. Include building elevations and/or plan views to show orientation of cast stone assembly and locations of joints.

N. Submit miscellaneous masonry materials, including product data, certifications and samples of each type product included in the masonry assemblies, including anchors.

O. Submit proposed method of providing a dust proof site (dust removal) during masonry demolition work.

P. Protect persons and property. Submit proposed method of protection for adjacent building, landscaping, pavement, walkways, site plantings, and related site work from damage.

1.10 QUALITY ASSURANCE

A. The Contractor shall utilize skilled and experienced specialty workers. Masonry foreman shall have a minimum of ten years' (10 yrs.') experience in historic masonry restoration. Qualified masons shall have a minimum of five years' (5 yrs.') experience in historic masonry restoration to perform the work, in accordance with requirements listed herein. Experienced trade workers shall be utilized for all aspects of the masonry work, except as follows:
   1. Mason's apprentices shall have a minimum of two years' (2 yrs.') experience in historic masonry restoration to perform the work of assisting masons. Apprentices shall not be allowed to perform work involving disassembly or rebuilding of masonry without direct supervision of a qualified mason.
   2. Laborers shall have a minimum of one year's experience in historic masonry restoration to perform the work of assistance to the mason team. Laborers shall be prohibited from performing skilled work on the building or preparing masonry materials.

B. Contractor to submit in-depth outline of each worker's training and experience, along with a list of projects performed in the previous five years.
   1. Contactor shall demonstrate a proven track record of success, experience and skill with production, preparation and curing of historic and lime-based mortars as well as stone masonry restoration and repairs.

C. Submit a minimum of three (3) references for each foreman and mason under consideration for performing historic masonry restoration.
   1. Contractor to submit in-depth outline of each worker's training and experience, along with a list of projects performed in the previous five years.
   2. Contactor (Masonry Restoration Company) shall demonstrate a proven track record of success, experience and skill with production, preparation, and curing of historic and lime-based mortars as well as stone masonry restoration and repairs.
   3. Contactor (Masonry Restoration Company) shall demonstrate a proven track record of maintaining production schedules on stone masonry restoration and repair projects.

D. The owner reserves the right to reject any contractor personnel, which they consider to be inexperienced.

E. Chemical Manufacturer Qualifications: A firm regularly engaged in producing masonry cleaners that have been used for similar applications with successful results, and with factory-trained representatives who are available for consultation and Project-site inspection and assistance at no additional cost.

F. Mockups: Prepare mockups of restoration and cleaning to demonstrate aesthetic effects and set quality standards for materials and execution and for fabrication and installation.

1. Brick Masonry: Prepare sample areas for each type of masonry material indicated to have repair work performed. If not otherwise indicated, size each mockup not smaller than two (2) adjacent whole units or approximately forty-eight inches (48”) in least dimension. Erect sample areas in existing walls unless otherwise indicated, to demonstrate quality of materials, workmanship, and blending with existing work. Include the following as a minimum:
   a. Brick Replacement:
      1. Four (4) brick units replaced.
   b. Repointing and Mortar Samples: Rake out joints in four (4) separate areas each approximately thirty-six inches high by forty-eight inches wide (36” H x 48” W) for each type of repointing required.
2. Cast Stone Repair and Replacement
   a. Patching: Four (4) patches small holes of at least four-square inches (4 sq. in.) for each type of cast stone unit indicated to be patched, so as to leave no evidence of repair.
   b. Cast Stone Replacement: One (1) cast stoner each type of cast stone unit indicated to be patched, so as to leave no evidence of repair.
   c. Cast Stone Repointing: Rake out joints in four (4) separate areas each approximately eight linear feet (8 lf.) or each type of repointing required and repoint.
3. Masonry Cleaning: Clean an area approximately twenty-five square feet (25 sq. ft.) or each type of masonry and surface condition.

G. Pre-Installation Conference: Conduit conference at Project site to comply with requirements in Division 01.

1.11 EXISTING CONDITIONS

A. Any item which does not match with the original profile or uses inappropriate/non-historic fabric not previously approved may be subject to removal at no additional cost to the Owner.

B. Existing historic items of construction not indicated to be removed or restored, shall be protected during construction operations.

1.12 REFERENCE STANDARDS

A. AMERICAN CONCRETE INSTITUTE (ACI)
   1. ACI 318 Building Code Requirements for Reinforced Concrete

B. AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM)

1. ASTM C33 Standard Specification for Concrete Aggregates
2. ASTM C114 Test Methods for Chemical Analysis of Hydraulic Cement
3. ASTM C144-11 Specification for Aggregate for Masonry Mortar
4. ASTM C150 Specification for Portland Cement
5. ASTM C173 Standard Test Method for Air Content of Freshly Mixed Concrete by the Volume Method
6. ASTM C231 Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
7. ASTM C207-06 (2011) Specification for Hydrated Lime for Masonry Purposes
8. ASTM C260 Standard Specification for Air-Entrained Admixtures for Concrete
9. ASTM C270 Standard Specification for Mortar for Unit Masonry (Latest Edition)
10. ASTM C494/C494M Standard Specification for Chemical Admixtures for Concrete
11. ASTM C595/C595M Specification for Blended Hydraulic Cements
12. ASTM C618 Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete
13. ASTM C666/666M Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
14. ASTM C979 Standard Specification for Coloring Pigments for Integrally Colored Concrete
15. ASTM C1157/C1157M Performance Specification for Hydraulic Cement
16. ASTM C1194 Standard Test Method for Compressive Strength of Architectural Cast Stone
17. ASTM C1195 Standard Test Method for Absorption of Architectural Cast Stone
18. ASTM C1364 Standard Specification for Architectural Cast Stone
19. ASTM C1713-15 Standard Specification for Mortars for the Repair of Historic Masonry

C. The Brick Industry Association (BIA)
   1. Technical Note 46 Maintenance of Brick Masonry

D. National Parks Services (NPS) Preservation Briefs:
   1. Preservation Brief 2 Repointing Mortar Joints in Historic Masonry
   2. Preservation Brief 42 The Maintenance, Repair and Replacement of Historic Cast Stone

E. The Masonry Society (TMS)
   1. TMS 602-11/ACI 530.1-11/ASCE 6-11 Specification for Masonry Structures
   2. TMS 404-23 Standard for Design of Architectural Cast Stone
   3. TMS 504-23 Standard for Fabrication of Architectural Cast Stone
   4. TMS 604-23 Standard Specification for Installation of Architectural Cast Stone

1.13 SEQUENCING AND SCHEDULING

A. Order replacement materials at earliest possible date, to avoid delaying completion of the Work.

B. Order sand for repointing mortar immediately after approval of the mockups. Take delivery of and store at Project site a sufficient quantity of sand to complete Project.

C. As scaffolding is removed, patch anchor holes used to attach scaffolding. Patch holes in masonry units to comply with Part 3 “Masonry Unit Patching” Article. Patch holes in mortar joints to comply with Part 3 “Repointing Masonry” Article.

1.14 WARRANTY

A. Manufacturer’s Warranty: Submit, for Owner’s acceptance, manufacturer’s standard warranty document executed by authorized company official.

B. See Division 01 Section “Summary of Work” for contractor’s warranty.

1.15 CLEAN-UP

A. Site clean-up shall be complete and performed daily to the satisfaction of the Owner.

B. All roof, building (interior and exterior), landscape, and parking areas shall be cleaned of all trash associated with masonry repairs, debris, and dirt caused by, or associated with, the work.

C. All trash and debris shall be completely removed from the site daily during the work and at the completion of the work. All debris shall be legally disposed of off-site.

1.16 GUARANTEES

A. Upon completion of the work and prior to final payment, the Contractor shall submit a guarantee of his work as free from defect in materials and workmanship. The guarantee shall be for a period of three years (3 yrs.) from the date of Substantial Completion. The guarantee shall be signed by an officer of the Contractor’s firm and sealed if a corporation.

PART 2 - PRODUCTS

2.1 BRICK MASONRY MATERIALS

A. Face Brick: Provide face brick, including specially molded, ground, cut, or sawed shapes where required to complete masonry restoration work.
   1. Provide units with physical properties, colors, color variation within units, surface texture, size, and shape to match existing brickwork meeting ASTM C 216, Grade SW, Type FBS.

a. For existing brickwork that exhibits a range of colors or color variation within units, provide brick that proportionally matches that range and variation rather than brick that matches an individual color within that range.

2. Special Shapes:
   a. Provide specially molded, one hundred percent (100%) solid shapes for applications where core holes or "frogs" could be exposed to view or weather when in final position and where shapes produced by sawing would result in sawed surfaces being exposed to view.
   b. Provide specially ground units, shaped to match patterns, for arches and where indicated.
   c. Mechanical chopping or breaking brick, or bonding pieces of brick together by adhesive, are not acceptable procedures for fabricating special shapes.

B. Building Brick: Provide building brick complying with ASTM C 62, Grade SW, MW, or NW for concealed backup; and of same vertical dimension as face brick, for masonry work concealed from view.

2.2 CAST STONE MATERIALS

A. General: Comply with ASTM C1364 and the following:

B. Portland Cement: ASTM C150, Type I or Type III, containing not more than 0.60 percent total alkali when tested according to ASTM C114. Provide natural color or white cement as required to produce cast stone color indicated.

C. Coarse Aggregates: Granite, quartz, or limestone complying with ASTM C33; gradation and colors as needed to produce required cast stone textures and colors.

D. Fine Aggregates: Natural sand or crushed stone complying with ASTM C33, gradation and colors as needed to produce required cast stone textures and colors.

E. Color Pigment: ASTM C979, synthetic mineral-oxide pigments or colored water-reducing admixtures; color stable, free of carbon black, nonfading, and resistant to lime and other alkalis.

F. Admixtures: Use only admixtures specified or approved in writing by Architect.
   1. Do not use admixtures that contain more than 0.1 percent (> 0.1%) water-soluble chloride ions by mass of cementitious materials. Do not use admixtures containing calcium chloride.
   2. Use only admixtures that are certified by the manufacturer to be compatible with cement and other admixtures used.
   3. Air-Entraining Admixture: Per ASTM C260, add to cast stone mixes for units exposed to the elements, manufacturer's prescribed rate to be in the five- to seven percent (5%-7%) range.
   4. Water-Reducing Admixture: ASTM C494/C494M, Type A.

5. ASTM C618 mineral admixtures of dark and variable colors shall not be used in surfaces intended to be exposed to view.

G. Water: Shall be potable.

H. Reinforcement: Deformed steel bars complying with ASTM A 615/A 615M, Grade 60 (Grade 420). Use galvanized or epoxy-coated reinforcement when coverage is less than one- and one-half inches (1-½" [38 mm]) of cast stone material.
1. Epoxy Coating: ASTM A775 / A775M.
2. Galvanized Coating: ASTM A767 / A767M.

I. Embedded Anchors and Other Inserts:
1. Fabricated from steel complying with ASTM A36/A36M and hot dip galvanized to comply with ASTM A123/A123M, or
2. Fabricated from stainless steel complying with ASTM A240/A240M, ASTM A276, or ASTM A666, Type 304.
3. Plastic inserts in Cast Stone Units preferred, to avoid risk of future corrosion.

2.3 CAST STONE UNITS

A. General: Comply Manufacturers: Provide products by one (1) of the following available manufacturers:

1. Northern Design Precast Inc:
51 International Drive
Loudon, NH 03307
Phone: (603) 783-8989 Website: https://ndprecast.com
2. Approved Equal: APA Certified Plant who is available and capable of providing cast stone elements required for this project.
a. Producer submits product data and qualifications for preliminary approval.
b. Producer to provide a list of past cast stone projects for Architects review.

B. Regional Materials: Cast stone units shall be produced within 500 miles (800 km) of the project site. All aggregates and cement that are used must have been extracted, harvested, or recovered within 500 miles of the project site.

C. Provide cast stone units complying with ASTM C1364 using the wet-cast method. Dry-tamp method of fabrication not acceptable on this project.
1. Provide units that are air-entrained and resistant to freezing and thawing as determined by laboratory testing according to ASTM C666 /C666M, Procedure A, as modified by ASTM C1364 (test to be current within two years [2 yrs.]).

D. Fabricate units with sharp arris and accurately reproduced details, with indicated texture on all exposed surfaces unless otherwise indicated.
1. Slope exposed horizontal surfaces one to twelve (1:12) to drain unless otherwise indicated.

2. Provide raised fillets at backs of sills and at ends indicated to be built into jambs.
3. Provide drips on projecting elements unless otherwise indicated.

E. Fabrication Tolerances:
   1. Variation in Cross Section: Do not vary from indicated dimensions by more than one-eighth inch (⅛” [3 mm]).
   2. Variation in Length: Do not vary from indicated dimensions by more than 1/360 of the length of unit or one-eighth inch (⅛” [3 mm]), whichever is greater, but in no case by more than one-quarter inch (¼” [6 mm]).
   3. Warp, Bow, and Twist: Not to exceed 1/360 of the length of unit or one-eighth inch (⅛” [3 mm], whichever is greater.
   4. Location of Grooves, False Joints, Holes, Anchorages, and Similar Features: Do not vary from indicated position by more than one-eighth inch (⅛” [3 mm]) on formed surfaces of units and three-eighths inch (⅜” [10 mm]) on unformed surfaces.

F. Curing:
   1. Cure wet-poured units in accordance with concrete standards.
   2. Cold Weather: Keep units indoor or covered with foundation blankets, if necessary.
   3. Warm Weather: Keep units damp or shaded, if necessary.

G. Acid etch units after curing to remove cement film from surfaces to be exposed to view.

H. Color(s) and Texture(s): Provide samples to match Architect's sample, directive or the existing material / façade.
   1. Color: Provide units to simulate natural limestone color, resembling Indiana limestone, unless otherwise indicated on the Contract Documents.
   2. Texture: Provide units with fine texture, light acid etch finish to resemble natural stone, unless otherwise indicated on the Contract Documents.
   3. Exact matches are difficult to achieve: New sample(s) should be a close match when compared from a visual distance of twenty feet (20’).

I. Accessories and Anchors:
   1. Strap Anchors: Type and size indicated, fabricated from ASTM A 666 steel complying with ASTM A36/A36M, and shall be Type 304 stainless steel complying with ASTM A240/A 240M, ASTM A276, or ASTM A666.
   2. Dowels/Pins: One-half inch (½”) diameter, round bars, smooth or threaded, fabricated from ASTM A 666 steel complying with ASTM A36/A36M and shall be Type 304 stainless steel complying with ASTM A240/A240M, ASTM A276.
   3. Stone Anchors: Shall be #433 Stone Anchors by Hohmann & Barnard, Inc or Approved Equal. shall be Type 304 stainless steel complying with ASTM A240/A 240M, ASTM A276, or ASTM A666.

J. Source Quality Control:
1. Engage a qualified independent testing agency to sample and test cast stone units according to ASTM C 1364
2. If Manufacturer performs testing in-house, provide documentation of ACI Certification for making and breaking cylinders / beams.
    a. Include one test for resistance to freezing and thawing (current within last two years [2 yrs.]).
    b. Twenty-wight (28) Day break results (beam or cylinder) 6,500 PSI min. Compressive Strength.

2.4 MORTAR

A. Mortar shall be a Type N, conforming to ASTM C270 specifications and shall closely match the existing in color, texture, and appearance.
1. Cement: Portland cement, Type I, ASTM C150.
    a. The same brand and color of cement shall be used throughout the Work.
    b. Provide White Portland Cement as required to match existing adjacent mortar colors.
2. Lime: Hydrated Lime, Type S, ASTM C207.
3. Aggregate: ASTM C144. All aggregate used in the new brick masonry work shall be from the same source in order to produce mortar of uniform color and texture throughout the Work.
    a. Aggregate for us in the new mortar shall match the original mortar sand in color, texture, and size. The mortar producer shall verify existing sand type, color and if possible, origin.
    b. Aggregate shall be free of organic contaminants. Chloride ions shall not exceed fifty (50) parts per million.
        1. Sand gradation shall match the following:

Sieve Size	% Passing (By Weight)
#4	100
#8	95-100
#16	70-100
#30	40-75
#50	20-40
#100	10-25
#200	0-10

B. Mortar for cast stone repointing and resetting shall replicate the existing mortar mix utilized during the original construction period. Pre-blended and bagged mortars will not be reviewed. The following constituents and minimum standards must be maintained unless otherwise accepted by the Architect.

C. Mortar for masonry and its constituents shall meet the requirements of ASTM C1713 and shall be proportions based to match the existing mortar.

D. Hydrated Lime shall meet the requirements of the following:

E. Per ASTM C1713, provide a Group 'L' non-hydraulic, high calcium lime putty which meets the requirements of ASTM C1489-15, Standard Specification for Lime Putty for Structural Purposes. Note that magnesium rich Type S, SA, N, and NA pre-bagged hydrated limes will not be allowed.

F. Pozzolan admixtures for Group 'L' lime putty can be added if the existing mortar testing indicates that a pozzolan or hydraulic cement (Portland Cement) is required to meet the specified design criteria, and to closely replicate existing mortar composition.

G. ASTM C1713 Group 'HC' Hydraulic Cements will not be allowed unless approved by the Engineer as noted above.

H. Aggregate: ASTM C144, except as required to meet gradation of the original mortar aggregates. All aggregate use in the Work shall be from the same source in order to produce mortar of uniform color throughout the Work. Aggregate for use in the new mortar shall match the original mortar sand in color, texture, shape, and size. The custom mortar producer shall verify existing sand type, color and if possible, origin.

I. Aggregate for use in any mortar joint less than one-quarter inch wide (<¼" W) shall comply with ASTM C144 with the further limitation that all aggregate shall pass a No.16 sieve.

J. Cement: Portland cement, Type I, ASTM C150, grey or white to match existing mortar.

K. The same brand and color of cement shall be used throughout the Work.

L. Mineral oxide tinting agent shall be added up to ten percent (10%) by weight of binder to the mix to color the fully cured, in-place mortar to match the existing texture and color, but is subject to matching the test results. The Owner will approve the final color of mortar.

M. Admixtures: No admixtures shall be allowed.

N. Water shall be clean, potable tap water.

O. Coloring Pigment: From tests, historic coloring agents were utilized in the original mortar. As these agents were considered fading, they are not acceptable for replacement mortar. Mineral oxide pigment shall be non-fading, lime proof, inorganic, and up to ten percent (10%) of the cement content by weight may be utilized in the mix.

P. Pigment samples will be submitted along with original mortar samples for selection by the Owner. The selected colors shall be incorporated into the test panel for final pigment selection.

Q. Use mortar mix identical to that of accepted test panel area.

R. Slight variations of pigment proportions (ASTM C979) in the mix are allowable to maintain mortar matching throughout the building elevations.

2.5 CAST STONE REPAIR MATERIALS

A. Masonry Patching Compound: Factory-mixed cementitious product that is custom manufactured for patching masonry.
   1. Products: Subject to compliance with requirements, provide the following:
      a. Cathedral Stone Products, Inc.; Jahn M90 Precast Concrete Repair Mortar
      b. Edison Coatings, Inc.; Custom System 45.
      c. Conproco Corporation; Matrix.

B. Use formulation that is vapor- and water permeable (equal to or more than the masonry unit), exhibits low shrinkage, has lower modulus of elasticity than the

C. masonry units being repaired, and develops high bond strength to all types of masonry.

D. Formulate patching compound used for patching cast stone in colors and textures to match each masonry unit being patched.

2.6 ACCESSORIES

A. Throughwall Flashing: Refer to Division 07 Section “Flashing and Sheet Metal.”

B. Weep Vents: Polypropylene honeycomb type venting weep hole material, clear or grey to match mortar, standard size for head joint. Quadro Vent by Hohmann and Barnard or approved substitute.

C. Brick Ties: Dovetail style 12-gauge, Type 304 stainless steel clip factory assembled to a three-sixteenths inch (3/16”) diameter wire tie of appropriate length approved to accommodate field conditions. Ties intended for individual masonry anchorage, not slot inserted (as for dovetail slots in new construction).

D. Helical Ties for Wall Strengthening: Type 304 stainless-steel helical retrofit masonry anchors designed to anchor existing veneer to the existing back-up wall such as Heli-Tie, manufactured by Simpson Strong-Tie or Approved Equal. Length required to provide two-inch (2”) minimum embedment into the back-up wall or as indicated on the Contract Drawings.

2.7 MASONRY CLEANERS

A. Subject to approval through trial testing of masonry surface cleaning, provide the following cleaners or equivalents by other manufacturers:
   1. The cleaner for general surface cleaning of historic masonry shall be Light Duty Restoration Cleaner by Prosoco or Approved Equal.

2. Subject to further Engineer review, advance approval and in-place testing, other cleaners may be considered for areas not cleaned satisfactorily with Light Duty Restoration Cleaner.

PART 3 - EXECUTION

3.1 PRODUCT TESTING

A. Testing of existing material, as specified here and under Submittals, shall be completed and accepted by the Engineer prior to installation of work.

3.2 MORTAR REMOVALS IN EXISTING JOINTS

A. Cut out existing mortar joints three inches (3”) until sound original lime mortar is reached. Portland cement pointing mortar encountered shall be completely removed back to original lime mortar regardless of depth or soundness.

B. Use grinding wheels or saws at the center only of horizontal joints.

C. Remove remaining mortar at horizontal and vertical joints using chisels to break the bond between remaining mortar and masonry surface.

D. Do not use saws to remove mortar directly adjacent to masonry. Use chisels to cave in bonded mortar to pre-cut saw kerfs.

E. Chisel fillets of mortar left from the blade’s curve.

F. Do not damage masonry units or flashings.

G. During removals, controlled dampening to reduce dust generation and airborne particulate matter is mandatory.

H. After mortar removals are complete, thoroughly clean out all loose particles, sand, dust, and the like using fiber brushes and compressed air.

3.3 REMOVALS – BRICK AND CAST STONE

A. On masonry assemblies scheduled for dismantling, remove stones to the ground utilizing qualified historic masons. The Contractor shall take the highest level of care in removal of historic masonry components that are to be reused, as well as adjacent units to remain that may be affected by removals, to not cause damage to the units.

B. Remove roof brick back-up in an orderly manner starting from the top and working down in layers, using care not to cause fall hazards.

C. The Contractor shall comply with cataloguing and stone unit tracking requirements for assemblies that are scheduled to be disassembled and rebuilt.

D. Whenever practical, removals made adjacent to masonry to remain shall be racked back, not toothed.

E. Thoroughly clean out all loose mortar particles, sand, dust, and other deleterious materials.
   1. All mortar shall be removed from the ends, tops, and bottoms of masonry intended to be reinstalled or to remain.

F. Report unsuitable or otherwise damaged back up masonry substrates to Engineer prior to proceeding with work.

3.4 <u>PROTECTION</u>

A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from masonry restoration work.
   1. Erect temporary protective covers over walkways and at points for pedestrian and vehicular entrance and exit that must remain in service during course of restoration and cleaning work.

B. Comply with chemical cleaner manufacturers' written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent chemical cleaning solutions from coming into contact with pedestrians, motor vehicles, landscaping, buildings, and other surfaces that could be harmed by such contact.
   1. Cover adjacent surfaces with materials that are proven to resist chemical cleaners being used unless chemical cleaners are used will not damage adjacent surfaces. Use materials that contain only waterproof, UV-resistant adhesives. Apply masking agents to comply with manufacturer's written instructions. Do not apply liquid masking agent to painted or porous surfaces. When no longer needed, promptly remove masking to prevent adhesive staining.
   2. Keep the wall wet below area being cleaned to prevent streaking from runoff.
   3. Do not clean masonry during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
   4. Neutralize and collect alkaline and acid waste for disposal off Agency's property.
   5. Dispose of runoff from cleaning operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.

C. Prevent mortars from staining face of surrounding masonry and other surfaces.
   1. Cover sills, ledges, and projections to protect them from mortar droppings.
   2. Keep the wall area wet and below rebuilding and pointing work to discourage mortar from adhering.
   3. Immediately remove mortar in contact with exposed masonry and other surfaces.
   4. Clean mortar splatters from scaffolding at the end of each day.

3.5 UNUSED ANCHOR REMOVAL

A. Remove any anchors, brackets, wood nailers, and other extraneous items no longer in use unless indicated to remain.
   1. Remove items carefully to avoid spalling or cracking masonry.
   2. If the item cannot be removed without damaging surround masonry, cut off item flush with surface and core drill surrounding masonry and item as close around item as practical.
   3. Patch holes where they are removed unless directed to remove and replace units.

3.6 BRICK REMOVAL AND REPLACEMENT

A. At locations indicated, remove brick veneer that is damaged, spalled, cracked, deteriorated and requiring rebuilding. Carefully demolish or remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.
   1. When removing single bricks, remove material from center of brick and work towards outside edges.

B. Remove in an undamaged condition as many whole bricks as possible to allow new masonry to be “toothed” in.
   1. Remove mortar and loose particles from brick by cleaning with hand chisels, brushes, and water.
   2. Remove sealants by cutting them close to brick with utility knife and cleaning with solvents.

C. Remove sealants by cutting them close to brick with utility knife and cleaning with solvents.

D. Support masonry, specifically at location of new throughwall flashing installation, in accordance with approved drawings but in no case more than four feet (4’) on-center. Protect the remaining masonry that surrounds the removal area. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.

E. Notify Architect of unforeseen detrimental conditions including voids, cracks, bulges, and loose units in existing masonry backup, rotted wood, rusted metal, and other deteriorated items.

F. Clean bricks surrounding removal areas by removing mortar, dust, and loose particles in preparation for replacement.

G. Replace removed damaged brick with the other removed brick in good quality, where possible, or with the new brick matching existing brick, including size. Do not use broken units unless they can be cut to usable size.

H. Helical Ties for Masonry Wall Strengthening Installation:

1. Review supporting base materials and environmental conditions. Do not begin installation until the base materials have been properly prepared.
2. Unless otherwise specified, do not drill holes or commence helical wall tie installations in masonry until the mortar materials have achieved their design strength.
3. Installations shall conform to the manufacturer's published installation instructions (MPII) or to alternative procedures specified in the contract documents. installation procedures specified in the contract documents shall supersede procedures in the MPII.
4. Drill all holes for helical ties of the diameter specified in the contract documents or otherwise recommended in the mpii.
    a. Identify the position of bed joint reinforcement, reinforcing steel and/or other embedded items prior to drilling holes for ties. Exercise care in drilling to avoid damaging existing reinforcing or embedded items. Notify the Architect if reinforcing steel or other embedded items are encountered during hole drilling procedures.
    b. Drill holes for helical wall ties accurately and squarely without excessive drill bit wobble at locations and spacing specified in the contract documents. drill holes perpendicular to base material, unless otherwise specified.
    c. Drill holes continuously and to the specified embedment depth through all facing and back-up base materials to be tied together.
    d. Install helical ties into holes pre-drilled in base materials using the manufacturer's recommended installation tool. Position correct end of helical tie into the manufacturer's installation tool set and drive the helical tie into the pre-drilled hole.
       Drive the helical tie into the base material until the helical tie is countersunk beyond the facing base-material surface as specified or to the depth permitted by the installation tool. install specified patch/repair material to match existing finish surface material.
    e. Where the helical tie manufacturer recommends the use of special tools for installation of ties, such tools should be used.
5. Helical tie installations shall be tested during construction by qualified field Technicians, as retained by the Contractor, and who shall be acceptable to the owner and Architect using properly calibrated, manufacturer-recommended, proprietary testing equipment.
    a. A minimum of six (6) anchors shall be tested.

I. Install the replacement brick into bonding and coursing pattern of existing brick. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.
   1. Maintain joint width for replacement units to match existing joints.
   2. Use setting buttons or shims to set units accurately spaced with uniform joints.

J. Lay replacement brick with completely filled bed and head joints. Wet both replacement and surrounding bricks that have ASTM C67 initial rates of absorption (suction) of more than 30 g/30 sq. in. per minute. Use wetting methods that ensure that units are nearly saturated, but the surface is dry when laid.
   1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.
   2. Rake out mortar used for laying brick before mortar sets and point new mortar joints in repaired area to comply with requirements for repointing existing masonry, and at same time as repointing of surrounding areas.

3.7 FLASHING INSTALLATION

A. General: Install embedded flashings and weeps in masonry at locations scheduled for new throughwall flashing locations. Install in accordance with this section and Division 07 Section “Flashing and Sheet Metal.”

B. Install flashing as follows unless otherwise indicated:
   1. Prepare sheathing surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
   2. At ends of lintels, shelf angles, heads, and sills, extend flashing six inches (6”) beyond opening or turn ends up not less than two inches(2”) to form watertight end dams.
   3. Secure metal flashing to back-up wall with fasteners at one-inch (1”) on-center for stud walls and twenty-four inches (24”) on-center for masonry walls. Provide metal termination bar where indicated. Provide four-inch (4”) minimum butyl sealant filled section laps. Strip in top edge of metal flashing and metal flashing section joints with flexible flashing. Stop flexible flashing one-half inch (½”) back from outside face of wall.

3.8 CAST STONE MASONRY UNIT PATCHING

A. Patch the following masonry units:
   1. Units indicated to be patched.
   2. Units with holes.
   3. Units with chipped edges or corners.
   4. Units with small areas of deep deterioration.

B. Remove and replace existing patches, unless otherwise indicated or approved by Architect.

3.9 CAST STONE REMOVAL AND REPLACEMENT

A. At locations indicated, remove terracotta units that are damaged, spalled, or deteriorated. Carefully demolish or remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.

B. Support and protect remaining masonry that was supported by removed units. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.

C. Notify Architect of unforeseen detrimental conditions including voids, cracks, bulges, and loose units in existing masonry backup, rotted wood, rusted metal, and other deteriorated items.

D. Clean masonry surrounding removal areas by removing mortar, dust, and loose particles in preparation for replacement.

E. Install replacement units into bonding and coursing patterns of existing units.
1. Do not cut or grind glazed terra cotta.
2. If minor cutting of replacement brownstone terracotta is required, use a motor-driven grinder or saw designed to cut masonry with clean, sharp, unchipped edges. Do not cut or grind more than one-eighth inch (⅛”) along any edge.

F. Set replacement units in a full bed of mortar. Replace existing anchors with new anchors of size and type indicated.
1. Embed anchors in mortar and fill voids behind units with mortar.
2. Tool exposed mortar joints in repaired areas to match joints of surrounding existing terra cotta.
3. Rake out mortar used for laying terra cotta before mortar sets and point new mortar joints in repaired area to comply with requirements for repointing existing masonry, and at same time as repointing of surrounding area.
4. When mortar is sufficiently hard to support units, remove shims and other devices interfering with pointing of joints.

3.10 REPOINTING MASONRY

A. Rake out and repoint joints to the following extent:
1. All joints in areas indicated.
2. Joints where the mortar is missing or where they contain holes.
3. Cracked joints where cracks can be penetrated at least one-quarter inch (¼”) by a knife blade 0.027-inch thick.
4. Cracked joints where cracks are one-sixteenth inch (1/16”) or more in width and of any depth.
5. Joints where they sound hollow when tapped by metal object.

6. Joints where they are worn back one-quarter inch (¼") or more from surface.
7. Joints where they are deteriorated to point that mortar can be easily removed by hand, without tools.
8. Joints where they have been filled with substances other than mortar.
9. Joints indicated as sealant-filled joints.

B. Do not rake out and repoint joints where not required. Report quantity of area daily to Owner.

C. Rake out joints as follows, according to procedures demonstrated in approved mockup:
   1. Remove mortar from joints to depth of two-joint width, but not less than one-half inch (½") or not less than that required to expose sound, un-weathered mortar.
   2. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
   3. Do not spall edges of masonry units or widen joints. Replace or patch damaged masonry units as directed by Architect.
      a. Cut out center of mortar bed joints using angle grinders with diamond-impregnated metal blades. Remove the remaining mortar by hand with chisel and resilient mallet.

D. Notify Architect of unforeseen detrimental conditions including voids in mortar joints, cracks, loose masonry units, rotted wood, rusted metal, and other deteriorated items.

E. <u>Pointing with Mortar</u>:
   1. Rinse joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen the joint surfaces before pointing.
   2. Apply pointing mortar first to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than three-eighth inch (⅜") until a uniform depth is formed. Fully compact each layer thoroughly and allow it to become thumbprint hard before applying the next layer.
   3. After low areas have been filled to same depth as remaining joints, point all joints by placing mortar in layers not greater than three-eighths inch (⅜"). Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing masonry units have worn or rounded edges, slightly recess finished mortar surface below face of masonry to avoid widened joint faces. Take care not to spread mortar beyond joint edges onto exposed masonry surfaces or to feather-edge the mortar.
   4. When mortar is thumbprint hard, tool joints match original appearance of joints as demonstrated in approved mockup. Remove excess mortar from edge of joint by brushing.
   5. Cure mortar by maintaining in thoroughly damp condition for at least seventy-two (72) consecutive hours including weekends and holidays.

a. Acceptable curing methods include covering with wet burlap and plastic sheeting, periodic hand misting, and periodic mist spraying using system of pipes, mist heads, and timers.

6. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.

F. Where repointing work precedes cleaning of existing masonry, allowing mortar to harden at least thirty (30) days before beginning cleaning work.

3.11 CLEANING MASONRY, GENERAL

A. Proceed with cleaning in an orderly manner; work from top to bottom of each scaffold width and from one (1) end of each elevation to the other. Ensure that dirty residues and rinse water will not wash over cleaned, dry surfaces.

B. Use only those cleaning methods indicated for each masonry material and location.

1. Do not use wire brushes or brushes that are not resistant to chemical cleaners being used. Do not use plastic-bristle brushes if natural-fiber brushes will resist chemical cleaner being used.
2. Use spray equipment that provides controlled application at volume and pressure indicated, measured at spray tip. Adjust pressure and volume to ensure that cleaning methods do not damage masonry.
3. Equip units with pressure gauges.
4. For chemical-cleaner spray applications, use low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with cone-shaped spray tip.
5. For water-spray application, use fan-shaped spray tip that disperses water at an angle of twenty-five to fifty degrees (25º - 50º).
6. For heated water-spray applications, use equipment capable of maintaining temperature between one hundred forty- and one hundred sixty degrees Fahrenheit (140ºF - 160ºF) at flow rates indicated.
7. For steam applications, use a steam generator capable for delivering live steam at nozzle.
8. High-pressure water spray application shall not be permitted.

C. Perform each cleaning method indicated in a manner that results in uniform coverage of all surfaces, including corners, moldings, and interstices, and that produces an even effect without streaking or damaging masonry surfaces.

D. <u>Water-Spray Application Method</u>: Unless otherwise indicated, hold spray nozzle at least six inches (6”) from surface of masonry and apply water in horizontal back and forth sweeping motion, overlapping previous strokes to produce uniform coverage.

E. <u>Steam Wash: Steam Wash</u>: Apply steam to masonry surfaces at pressures not exceeding eighty pounds per square inch (80 psi). Hold nozzle at least six inches (6”) from surface of masonry and apply steam in horizontal back and forth sweeping motion, overlapping previous strokes to produce uniform coverage.

F. Chemical-Cleaner Application Methods: Apply chemical cleaners to masonry surfaces to comply with chemical-cleaner manufacturer's written instructions; use brush or spray application. Do not spray apply at pressures exceeding forty pounds per square inch (40 psi). Do not allow chemicals to remain on the surface for periods longer than those indicated or recommended by manufacturer.

G. Rinse off chemical residue and soil by working upward from bottom to top of each treated area at each stage or scaffold setting. Periodically during each rinse, test pH of rinse water running off of cleaned area to determine that chemical cleaner is completely removed.
   1. Apply neutralizing agent and repeat rinse if necessary, to produce tested pH of between 6.7 and 7.5.

H. After cleaning is complete, remove protection no longer required. Remove tape and adhesive marks.

3.12 PRELIMINARY CLEANING

A. Removing Plant Growth: Completely remove visible plant, moss, and shrub growth from masonry surfaces. Carefully remove plants, creepers, and vegetation by cutting at roots and allowing them to dry as long as possible before removal. Remove loose soil and debris from open masonry joints to whatever depth they occur.

B. Preliminary Cleaning: Before beginning general cleaning, remove extraneous substances that are resistant to cleaning methods being used. Extraneous substances include paint, calking, asphalt, and tar.
   1. Carefully remove heavy accumulations of material from surface of masonry with a sharp chisel. Do not scratch or chip masonry surface.
   2. Remove paint and calking with alkaline paint remover.
      a. Comply with requirements in "Paint Removal" Article.
      b. Repeat application up to two times (2x) if needed.
   3. Remove asphalt and tar with solvent-type paint remover.
      a. Comply with requirements in "Paint Removal" Article.
      b. Apply paint remover only to asphalt and tar by brush without prewetting.
      c. Allow paint remover to remain on surface for ten- to thirty minutes (10-30 mins.).
      d. Repeat application if needed.

3.13 CLEANING MASONRY

A. Cold Water Wash: Use cold water applied by low-pressure spray.

B. Cold Water Soak:
   1. Apply cold water by intermittent soaking.
   2. Use perforated hoses or other means that will apply fine water mist to entire surface being cleaned.
   3. Apply water in cycles with at least thirty minutes (30 mins.) between cycles.

4. Continue water application until surface encrustation has softened sufficiently to permit its removal by water wash, as indicated by cleaning tests.
5. Remove soil and softened surface encrustation from masonry with cold water applied by low-pressure spray.

C. Hot-Water Wash: Use hot water applied by low-pressure spray.

D. Steam Cleaning: Apply steam at pressure not exceeding forty pounds per square inch (40 psi).

E. Detergent Cleaning:
1. Wet masonry with water applied by low-pressure spray.
2. Scrub masonry with detergent solution using medium-soft brushes until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from mortar joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used, and that masonry surface remains wet.
3. Rinse with water applied by low pressure spray to remove detergent solution and soil.
4. Repeat cleaning procedure above where required to produce cleaning effect established by mockup.

F. Mold, Mildew, and Algae Removal:
1. Wet masonry with water applied by low-pressure spray.
2. Apply mold, mildew, and algae remover by brush or low-pressure spray.
3. Scrub masonry with medium-soft brushes until mold, mildew, and algae are thoroughly dislodged and can be removed by rinsing. Use small brushes for mortar joints and crevices. Dip brush in mold, mildew, and algae remover often to ensure that adequate fresh cleaner is used and that masonry surface remains wet.
4. Rinse with water applied by low pressure spray to remove mold, mildew, and algae remover and soil.
5. Repeat cleaning procedure above where required to produce cleaning effect established by mockup.

G. Non-Acidic Liquid Chemical Cleaning:
1. Wet masonry with water applied by low-pressure spray.
2. Apply cleaner to masonry in two applications by brush or low-pressure spray. Let cleaner remain on surface for period indicated below:
   a. As recommended by chemical-cleaner manufacturer.
   b. As established by mockup.
3. Rinse with water applied by low pressure spray to remove chemicals and soil.
4. Repeat cleaning procedure above where required to produce cleaning effect established by mockup. Do not repeat more than once (1x).

3.14 FIELD QUALITY CONTROL

A. Independent Testing Agency: Cooperate with the Independent Testing Agency engaged by the Owner for field quality control activities for the Work of this Section.

B. Cooperate with field quality control personnel. Allow inspectors and observers to access the contractor furnished and erected scaffolding, staging, ladders including aerial boom lifts, and the work areas, as needed to perform inspections and observations.

C. Additional inspections and retesting of materials which fail to comply with specified material and installation requirements shall be performed at Contractor's expense.

3.15 FINAL CLEANING

A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water, spray applied at low pressure.
1. Do not use metal scrapers or brushes.
2. Do not use acidic or alkaline cleaners.
3. Wash adjacent woodwork and other non-masonry surfaces. Use detergent and soft brushes or clothes
4. Clean masonry debris from roof; remove debris from gutters and downspouts. Rinse off roof and flush gutters and downspouts.
5. Sweep and rake adjacent pavements and grounds to remove masonry debris. Where necessary, pressure wash surfaces to remove mortar, dust, dirt, and stains.

END OF SECTION

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ROUGH CARPENTRY

SECTION 06 10 00

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. The General Conditions and all parts of the Bid and Contract Documents are made part of this Section as if fully repeated herein.

B. Refer to all sections within Division 1 for additional information.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Section 07 53 00 - Elastomeric Roofing and Flashing
B. Section 07 62 00 - Sheet Metal Flashing and Trim

1.3 SCOPE OF WORK

A. In general, the Contractor shall supply all labor, materials, equipment, temporary protection, tools, and appliances necessary for the proper completion of the work in this Section, as required in the Specifications and in accordance with good construction practice and as required by the material manufacturer, as amended. The work under this Section generally includes the following:
   1. Coordinate this work with all trades to provide orderly progress of the tasks.
   2. Install new wood blocking at roof penetrations, roof perimeters, roof to wall locations, and as required to properly terminate the new roofing and flashing systems. Coordinate the final wood blocking heights with the insulation configuration to provide a uniform height around the perimeter of each roof. Refer to Section 07 53 00 - Elastomeric Roofing and Flashing for additional information.
   3. Remove and replace any deteriorated wood blocking designated to remain. Refer to Unit Price Items on the Bid Form.
   4. Replacement of deteriorated one-inch (1”) wood plank roof deck. Refer to Unit Price Items on the Bid Form.
   5. Clean and restore all areas affected by the work.

1.4 SPECIAL JOB CONDITIONS

A. The building occupants are highly sensitive to fumes, odors, noise, and disturbances. The Contractor shall submit a detailed sequence schedule for the roof area prior to the start of work and coordinate daily schedules with the Owner.

1.5 JOB CONDITIONS

A. All surfaces to receive the new wood blocking shall be thoroughly dry. Should surface moisture such as dew exist, the Contractor shall provide the necessary equipment to dry the surface prior to application. Do not dry with open flames.

A. Coordinate this work with the work described in other Sections of this Specification.

B. Do not leave any newly installed wood blocking exposed. Cover and protect all newly installed wood daily with the new flashing system.

C. Protect all existing and new wood stored on site to prevent moisture absorption. Use tarps over the wood pile (top, sides, and bottom) elevated on pallets (one side lower to shed water).

D. Verify condition and securement of existing wood blocking designated to remain. Verify that existing wood blocking fasteners to deck are specified fasteners spaced twenty-four inches (24”) on-center maximum.

E. If delays in the project exceeding one week (1 wk.) are anticipated due to inclement weather (or due to any other condition), all wood shall be stored in weatherproof box trailers or storage sheds in locations to be designated by the Owner.

1.6 REFERENCE STANDARDS

A. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

B. APA – THE ENGINEERED WOOD ASSOCIATION

C. NATIONAL DESIGN SPECIFICATION (NDS)

D. AMERICAN FOREST AND PAPER ASSOCIATION (AFPA)

E. AMERICAN WOOD PROTECTION ASSOCIATION (AWPA)

1.7 SUBMITTALS

A. Submittals shall be made in accordance with the General Conditions and Section 01 33 00 - Shop Drawings and Submittals.

B. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used, net amount of preservative retained, and chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.

2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials, both before and after exposure to elevated temperatures when tested according to ASTM D5516 and ASTM D5664.
3. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
4. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

C. Contractor to provide site safety plan and Job Hazard Analysis.

1.8 QUALITY ASSURANCE

A. Forest Certification: Provide rough carpentry produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC's "Principles and Criteria for Forest Stewardship."

1.9 DELIVERY, STORAGE, AND HANDLING

A. Stack lumber, plywood, and other panels; place spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

1.10 GUARANTEE

A. The Contractor shall supply the Owner with a minimum two-year (2-yr.) workmanship warranty for their work. In the event any work related to this section is found to be defective within two years (2 yrs.) of substantial completion, the Contractor shall remove and replace such at no additional cost to the Owner.

PART 2 - PRODUCTS

2.1 DIMENSIONAL LUMBER

A. All dimensional lumber for roofs and walls shall be construction grade Douglas Fir, Hem-Fir or Southern Yellow Pine, formed to the dimensions shown on the Detail Drawings and as required for proper installation of the new work. All new exterior perimeter woodwork, nailers, and wood blocking used on the building shall be minimum six-inch wide (6" W), except where otherwise detailed.

B. All woodwork shall have a maximum moisture content of nineteen percent (19%) by weight on a dry weight basis. Kiln drying may be required to conform to maximum nineteen percent (19%) moisture content.

C. Pressure treated wood blocking/sleepers will only be permitted when wood furring or blocking is in direct contact with concrete, masonry, or exposed to the exterior.

D. Shims for roof edge blocking shall be continuous cedar of the size required to provide a sloped surface for the roof edge detail as shown in the Contract Drawings.

2.2 PLYWOOD

A. Plywood shall be APA Grade CD, Exterior, minimum one-half inch thick (½" THK) for wall systems, unless designated otherwise on the detail drawings. Pressure treated plywood will not be permitted.

2.3 MISCELLANEOUS LUMBER

A. General: Provide lumber for support or attachment of other construction, including the following:
1. Rooftop equipment bases and support curbs.
2. Blocking.
3. Nailers.
4. Treated wood for furring.

B. For items of dimension lumber size, provide Construction, Stud, or No. 2 grade lumber with fifteen percent (15%) moisture content.

2.4 FASTENERS

A. In general, all fasteners, anchors, nails, straps, and other accessories shall be of stainless steel, galvanized steel, or fluorocarbon coated steel. Galvanizing shall be hot dip in accordance with ASTM A153 Specifications. Electro-galvanized items shall not be used.

B. Fasteners for securing wood blocking to wood blocking shall be galvanized annular threaded ring shank nails. Fasteners shall be of sufficient length to penetrate the receiving member one- and one-half inch (1-½") minimum, except full depth into plywood.

C. Fasteners for securing wood blocking and plywood to steel shall be No. 12 minimum coated steel deck screws, with a minimum one-inch (1") embedment.

D. Fasteners for securing wood blocking to concrete substrates shall be one-piece fluorocarbon coated, one-quarter inch (¼'') diameter flat head anchors such as Rawl drives by the Rawl Plug Company or approved equal, with a minimum two-inch (2") embedment into the substrate.

E. Fasteners for securing plywood to concrete and masonry surfaces shall be one-quarter inch (¼") diameter hammer drive anchors with zinc-alloy sheaths and stainless-steel inserts as manufactured by Star Fasteners, Rawl, OMG or approved equal. Anchors shall be of sufficient length to penetrate the receiving substrate one- and one-quarter inch (1-¼") minimum.

F. Fasteners for securing wood blocking to CMU blocks and brick masonry units shall be Kwik-Con II+Torx Hex Screw Anchor as manufactured by Hilti or approved equal.

Fasteners shall be of sufficient length to penetrate the receiving substrate one- and three-quarters inch (1-¾”) minimum.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Discard units of material with defects that impair quality of carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.

B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.

C. Apply field treatment complying with AWPA M4 to cut surfaces of preservative-treated lumber and plywood.

D. Securely attach carpentry work as indicated and according to applicable codes and recognized standards.

E. Use fasteners of appropriate type and length. Predrill members when necessary to avoid splitting wood.

3.2 REMOVAL OF WOOD BLOCKING

A. Remove and dispose of all deteriorated wood blocking and all blocking scheduled to be removed and replaced in accordance with the Contract Drawings and this Specification.

3.3 PERIMETER WOOD BLOCKING INSTALLATION

A. Refer to FM Data Sheet 1-49 concerning spacing requirements for perimeter blocking anchorage. All anchors and fasteners that attach wood blocking to the structure shall have their spacing halved for an eight-foot (8’-0”) length away from all exterior corners of the perimeter.

B. The perimeter wood blocking shall be installed at a consistent, even height throughout that roof area to provide a flush transition from insulation to blocking and provide an even and continuous line for metal fascia installation.

C. All butt joints in woodwork shall be flush to provide a smooth, uniform line with no irregularities. Built-up blocking shall have butt joints staggered four feet (4’-0”) minimum layer to layer. The minimum length of any individual piece of woodwork shall be two feet (2’-0”). All lengths of woodwork shall have a minimum of two (2) fasteners. Layers of wood blocking at corners shall be interlocked to provide additional stability.

D. At roof perimeters, the wood blocking and plywood shall be installed as detailed. Provide eight-inch (8”) nominal wide blocking at roof perimeters unless otherwise detailed.

E. Existing wood blocking and curbs may be required to be cut back or trimmed to provide an even flush assembly as shown on the Detail Drawings. This shall be accomplished with power or hand tools. Should cutting of existing components reduce or eliminate securement of their components, the Contractor shall re-secure with the appropriate fasteners.

3.4 FASTENING OF WOODWORK

A. All new woodwork shall be secured with the specified fasteners spaced twelve inches (12”) on-center maximum, or unless otherwise specified by Factory Mutual Global’s Data Sheet FM 1-49.

B. All existing woodwork to be reused shall be re-secured with the specified fasteners spaced twelve inches (12”) on-center maximum, to the roof deck. The Contractor shall be made aware that the re-securement fasteners may need to penetrate multiple layers of existing wood blocking before penetrating the roof deck and shall provide proper length fasteners.

C. Wood blocking shall be fastened directly to the roof deck with the specified fasteners spaced twelve inches (12”) on-center maximum, staggered off the centerline of the woodwork being secured. Pre-drilling of fastener holes shall be completed prior to installing fasteners. Should the wood blocking be greater than a nominal two by six (2 x 6), fasteners shall be spaced twelve inches (12”) on-center maximum in pairs.

D. Wood blocking to wood blocking connections shall be made using the specified fasteners spaced twelve inches (12”) on-center maximum and staggered off the centerline of the woodwork being secured. Nails shall be of sufficient length to penetrate the receiving member one- and one-half inches (1-½”) minimum.

E. Plywood shall be fastened to vertical concrete, CMU, and masonry surfaces with the specified fasteners spaced eight inches (8”) on-center both vertically and horizontally.

F. Plywood shall be fastened to vertical stud framing with the specified fasteners spaced 6-inches on center maximum vertically.

G. Spacing of fasteners should not exceed twelve inches (12”), eight feet (8’) each way from outside corners. Withdrawal resistance should be one hundred pounds (100 lbs.) per nail minimum.

3.5 CURB EXTENSIONS

A. Coordinate final roof flashing heights with Section 07 53 00 - Elastomeric Roofing and Flashing.

B. New wood blocking shall be secured to the existing curb with approved fasteners.

3.6 PLYWOOD SHEATHING INSTALLATION

A. Coordinate this work with that of the other trades to provide the orderly progress of construction and a watertight condition. It is the intent of these specifications to install plywood sheathing at designated parapet walls and where designated on the Contract Drawings.

B. Secure new plywood sheathing over the substrate accepting the new elastomeric flashings. Where practical, the plywood assembly can be sized to allow the plywood surface to be flush with the wood blocking around the perimeter of the roof system. Coordinate with Section 07 53 00 - Elastomeric Roofing and Flashing and Section 07 62 00 - Sheet Metal Flashing and Trim.

3.7 PROTECTING AND CLEANING

A. New wood blocking and plywood shall be kept dry before, during and after installation.

B. Clean adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

C. Refer to close-out procedures described in Division One of these Specifications for additional information.

END OF SECTION

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ELASTOMERIC ROOFING AND FLASHING

SECTION 07 53 00

PART 1 – GENERAL

1.1 IN GENERAL

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

B. Refer to all sections within Division 01 for additional information.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Section 04 01 20 - Masonry Restoration and Cleaning
B. Section 06 10 00 - Rough Carpentry
C. Section 07 62 00 - Sheet Metal Flashing and Trim
D. Section 22 30 00 - Plumbing

1.3 SCOPE OF WORK

A. In general, the Contractor shall supply all labor, materials, equipment, temporary protection, tools, and appliances necessary for the proper completion of the work in this Section, as required in the Specifications and in accordance with good construction practice and as required by the material manufacturer, as amended. The work under this Section generally includes the following:
1. Coordinate this work with all other trades to provide orderly progress of work.
2. Supply all shoring and protection necessary to protect the building areas, building systems and landscape areas.
3. Coordinate the disconnection, removal, relocation, and reinstallation of mechanical units, conduits, ductwork, equipment, etc.
4. Supply all necessary chutes, disposal facilities, transportation and labor necessary to dispose of all demolished materials, dirt, and debris off-site in a legal dumping area. The Contractor shall obtain all permits necessary to transport and dispose of all materials, rubbish and debris.
5. Remove and dispose of existing roofing materials, including but not limited to roof membrane, membrane flashings, sheet metal flashings, insulations and associated components down to the existing roof deck to remain. Prepare surfaces to receive new roofing assembly.
6. Remove all existing base flashings. Remove other existing flashings such as unit curbs, pitch pockets, sheet metals, and other components as required to properly complete the work.
7. Clear roof surfaces of debris by sweeping and vacuuming methods as required to remove all debris from the roof deck surface.
8. Remove, protect and/or store all materials and assemblies to be reinstalled.

9. Coordinate with Section 06 10 00 - Rough Carpentry for the installation of wood blocking and plywood sheathing required to provide a minimum twelve-inch (12”) flashing height and properly terminate the roof membrane and flashings as indicated on the Contract Drawings.
10. Furnish and install a new adhered single-ply elastomeric membrane roofing assembly including, but not limited to, elastomeric membrane, coverboard, tapered insulation, air/vapor retarder over the roof deck.
11. All roof membrane field seams shall be stripped in with a single six-inch (6”) wide EPDM stripping membrane.
12. Install tapered insulation as indicated on the Contract Documents and as required to shed water toward the drainage systems.
13. Coordinate installation of all sheet metal flashings, including but not limited to, edge metals, counter-flashings, skirt flashings, hook strips and clips to properly terminate the roofing membrane and shed water from walls and roof penetrations. Coordinate with Section 07 62 00 - Sheet Metal Flashing and Trim.
14. Apply liquid membrane flashing at penetrations as indicated on the Contract Drawings.
15. Roof protection walkway pads, include two hundred linear feet (200 LF) to install in locations as designated by the Owner.
16. Clean and restore all areas affected by the work to the satisfaction of the Owner.

1.4 <u>JOB CONDITIONS</u>

A. The building occupants are highly sensitive to fumes, odors, noise, and disturbances. The Contractor shall submit a detailed sequence schedule for the roof area prior to the start of work and shall coordinate daily schedules with the Owner

B. Schedule and execute all work without exposing the building interiors to inclement weather. Protect all new and existing roof work, the building, and its contents from staining and damages. Segregate all work areas from the building occupants.

C. The Contractor shall utilize skilled and experienced specialty workers to install the work. Experienced trade workers shall be utilized for all aspects of the work.

D. The building shall be occupied during construction. The Contractor shall provide all protection, barriers, and guards necessary to segregate their work area, and the areas below, from pedestrian and vehicular traffic. Also protect existing roof areas, equipment, landscaping, and paved areas from damage.

E. All surfaces to receive new insulation, membrane or flashings shall be thoroughly dry. Should surface moisture such as dew exist, the Contractor shall provide the necessary equipment to dry the surface prior to application. No open

flames shall be permitted on the roof at any time.

F. Remove only as much existing roofing as can be replaced and made weather tight each day, including all flashing work.

G. Roofing shall not be applied when ambient temperature is less than forty degrees Fahrenheit (< 40ºF) unless approved in writing by the Engineer and membrane manufacturer.

H. Temporary waterstops shall be installed at the end of each day's work and shall be removed before proceeding with the next day's work. Waterstops shall be compatible with all materials and shall not emit dangerous or incompatible fumes. Waterstops must be installed to permit proper roof drainage. Waterstops shall not be installed to impede roof surface drainage.

I. Cover sidewall areas with canvas tarps where existing roof system is discarded into refuse containers via trash chutes. Plastic or "poly" tarps shall not be used at these locations.

J. All new and temporary construction, including equipment and accessories, shall be secured from wind damage or blow-off.

K. Equipment required to hoist materials to the roof and remove debris from the roof shall be supplied, maintained, and operated by the Contractor.

L. The Contractor shall provide protection for sitework, plantings, landscaping, building surfaces, interior spaces, and similar items to protect from damage. Items damaged as a result of the work in this section shall be repaired or replaced by the Contractor to the satisfaction of and at no additional cost to the Owner.

M. The Contractor shall clean all debris which may infiltrate through the roof decking into the interior prior to demobilization from the site. This shall include, but not be limited to, floors, cabinets, and drop ceilings.

N. The Contractor shall notify the Owner at least seventy-two hours (72 hrs.) in advance of doing any interior demolition work so that the Owner may provide entry into required areas.

O. No removal, replacement, repair or covering of potentially deteriorated roof deck shall be performed without authorization from both the Engineer and Owner.

P. The Contractor is cautioned to take all necessary precautions and make all investigations necessary to install the work. The Owner will not consider unfamiliarity with the job conditions as a basis for additional compensation.

Q. Hot work of any kind should be avoided. If there is a practical and safer way to do the job without hot work, the alternative method should be used. If hot work is unavoidable, precautions such as those outlined on the FM Global Hot Work Permit System should be taken during any such work.

1.5 SUBMITTALS

A. The Contractor shall provide adequate staging and protection of the interior building as required to perform the work.

B. A sample roofing system warrantee and letter of confirmation from the roof membrane manufacturer stating that the Contract Documents have been reviewed and that there are no exceptions to the Specifications and Contract Drawings shall be submitted. The roofing system must meet UL 790, Class A and ASCE 7-16 Wind Uplift Resistance as shown on the drawings and all local, state and Federal Building Codes and is accepted by the manufacturer for the required warranty.

C. Provide a letter of approval from the insulation manufacturer and membrane manufacturer that the proposed insulation system is compatible with the cold adhesive system and will achieve the specified warranty.

D. Provide attachment layout and spacing for cricket insulation layout. Contractor to confirm adhesion testing during the roof renovations to meet the FM Global wind uplift resistance system requirements.

E. Provide the manufacturer’s product and installation literature for each item listed in Part 2 for approval. Shop drawings are required indicating any anticipated changes.

F. Submit a full-size (twenty-four inches by thirty-six inches [24” x 36”]) roof area plan showing proposed flat stock, tapered, and cricket insulation layout and attachment requirements with slopes to drains and scuppers/downspouts.

G. Submit evidence that the cold adhesive manufacturer’s representative had observed the insulation installation, and that the system appears to be installed in accordance with the manufacturer’s instructions.

H. Contractor to provide site safety plan and Job Hazard Analysis.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications:
1. Products used in this specified roof system will be produced by manufacturers regularly engaged in the manufacturing of these products with a minimum twenty-year (20-yr.) history of successful production and product installation.
2. Source Limitations: To greatest extent possible, obtain auxiliary materials for roof system from roofing membrane manufacturer. Provide letter of acceptance from membrane manufacturer for auxiliary materials from other sources.
3. System Approval: Provide statement from manufacturer that specified roof system meets requirements for requested warranty.

4. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Architect.

B. Installer Qualifications:
   1. A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's warranty.
   2. Verification of approved installer status will be written manufacturer’s certification as stated in the Submittals section of this specification.
   3. Project reference shall be provided as stated in the Submittals section of this specification.
   4. Installer shall provide written documentation of at least five years (5 yrs.) of experience in the successful application of the specified roof system, if requested by the Owner.
   5. The installer shall provide written documentation of the successful application of a minimum of 100,000 square feet of the specified roof material, if requested by the Owner.
   6. The Installer will supply the resume of the project foreman listing work experience with the specified roof system during the past ten years (10 yrs.), if requested by the Owner.

1.7 PERFORMANCE REQUIREMENTS

A. General Performance: Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.

B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane roofing manufacturer based on testing and field experience.

C. Underwriters Laboratory (UL): Provide the roofing assembly to meet UL Class A rating.

D. The specified roofing assembly must resist the design uplift in accordance with ASCE 7-10 and the Attachment Layout Plan in the Contract Drawings.

E. Provide roof edge and perimeter metal components complying with ANSI/SPRI ES1 and acceptable to manufacturer for inclusion into roof system.

1.8 TESTING PROCEDURES

A. During the course of the work, the Owner (or designated representative) may secure samples, in accordance with testing guidelines defined within ASTM D140, of materials and completed roofing being installed at the job site and submit them to an independent laboratory for comparison to the material performance requirements listed in these specifications.

B. Should test results prove that materials and/or completed roofing do not meet-or-exceed the performance requirements listed within these specifications:
1. The contractor shall pay for all testing.
2. Construction installed and found not to comply with the specifications shall be removed and replaced at no change to the contract price.

1.9 WARRANTY AND GUARANTEE

A. Roofing Contractor's Guarantee: Upon completion of the work, and prior to final payment, the Contractor shall submit a Guarantee of his work to be free from defect in materials and workmanship. This Guarantee shall be for a period of five years (5 yrs.), and shall be signed by a Principal of the Contractor's firm, and sealed if a corporation. In the event any work related to the roofing, flashing, or metal work is found to be defective within two years of substantial completion, the roofing contractor shall remove and replace such at no additional cost to the Owner. The roofing Contractor's warranty obligation shall run directly to the building Owner, and a copy of the roofing signed warranty shall be sent to the roofing system's manufacturer.
1. The duration of the Roofing Contractor's five-year (5-yr.) warranty shall run concurrent with the roofing system's manufacturer's twenty-five year (25-yr.) warranty.

B. Roofing Systems Manufacturer's Warranty: The roofing manufacturer shall guarantee that the roof areas to be in a watertight condition and free from seam separation and the delamination of the roofing system components, for a period of twenty-five years (25 yrs.), from the date of final acceptance of the roofing system. The warranty shall be a 25-year no dollar limit, non-prorated total system labor, and material warranty, for wind speeds up to seventy-four miles per hour (74 mph). The total system warranty shall include all roofing materials, related components, and accessories including, but not limited to the baseboard, vapor retarder, insulation board, cover board, roofing membrane, membrane flashings, fasteners, adhesives and termination metals and roof drain assemblies. The manufacturer shall repair leaks and defects, in materials and workmanship as promptly after observation as weather and site conditions permit.

PART 2 - MATERIALS

2.1 ROOFING AND FLASHING MEMBRANES

A. Roofing membrane shall be 0.060 mil thick non-reinforced compounded rubber sheet elastomer (EPDM), as manufactured by Elevate, Carlisle SynTec Systems, Inc., Johns Manville or Approved Equal.

B. Stripping shall be six-inch (6”) or nine-inch (9”) wide semi-cured EPDM self-adhering seam cover strips (minimum thickness: sixty millimeters [60 mils.]) as provided by the roofing manufacturer.

C. The elastomeric sheet membrane shall have the following minimum properties:

PHYSICAL PROPERTY	TEST METHOD	SPECIFICATIONS
Tolerance on Nominal Thickness, %	ASTM D412	+/- 10
Weight, lbs./sq.ft.		0.39
Tensile Strength, min, psi	ASTM D412	1600
Elongation, Ultimate, min, %	ASTM D412	465
Tear Resistance, min, lbs./in.	ASTM D624 (Die C)	200
Factory Seam Strength, min	Modified ASTM D816	Membrane Rupture
Resistance to Heat Aging Properties after 4 weeks @ 240°F		
Tensile Strength, min, psi	ASTM D412	1450
Elongation, Ultimate, min, %	ASTM D412	280
Tear Resistance, min, lb./in	ASTM D624	215
Linear Dimensional Change, max, %	ASTM D1204	-0.5
Ozone Resistance		
Condition after exposure to 100 pphm Ozone in air for 168 hours 104ºF (40⁰C) Specimen is at 50% strain	ASTM D1149	No Cracks
Brittleness Temp., max deg. F	ASTM D746	-49
Resistance to Water Absorption		
After 7 days immersion @ 158ºF (70ºC) - Change in mass, max %	ASTM D471	2.0
Water Vapor Permeability max, perm-mils	ASTM E96 (Proc. B or BW)	0.03
Flexibility/Torsion DMA	ASTM D5279-08	225 MPa @ -40ºF
Fungi Resistance	ASTM G21	0 (No Growth)
Resistance to Outdoor (Ultraviolet) Weathering Xenon-Arc, 4000 hours exposure, 176ºF (80ºC) black panel temperature	ASTM D26	No Cracks No Crazing 41,480 kJ/m² 16,500 hrs.
Water Vapor Permeance Max, perms	ASTM E96	0.03

D. Factory fabricated membrane seams shall be step tapered to achieve a smooth transition across the seam. Seams shall be vulcanized.

E. Flashing membrane to be used at corners of walls or penetrations shall be of the same manufacturer as the roof membrane and shall be 0.060” thick uncured elastomer completely compatible with all other components used in the new roofing system. Cured membrane shall be used at straight flashing runs. Seams shall be stripped-in with uncured membrane.

F. All materials and accessories used to install the roofing and flashing membrane systems shall be of the same manufacturer as the sheet membrane. These materials include, but are not limited to, the following:
1. Surface cleaners and primers.
2. Bonding adhesive.
3 Splicing cement.
4. Lap Sealant.
5. Mastics.
6. Caulkings and sealants.
7. Pourable sealer.
8. Pipe seals.
9. Walkway Pad.
10. Membrane termination strips, bars, plates and fasteners.

G. All membrane manufacturer’s required details shall be considered a part of this project and incorporated into the project details by the Contractor.

2.2 <u>ROOF INSULATION</u>

A. All roof insulations proposed for this project shall be approved in writing by the membrane manufacturer for use with their membrane and as required to achieve the required roofing warranty.

B. Tapered and flat stock isocyanurate insulation shall be skinned with factory-applied fiberglass bituminous felt as manufactured by Hunter Panels LLC, Atlas Roofing, RMax, or as supplied by the Approved roofing membrane system manufacturer as required to meet membrane manufacturer’s requirements and warranty. The isocyanurate insulation board shall conform to ASTM Specification C1289, Type II, Class 1, Grade 2 (twenty pounds per square inch [20 psi] minimum).
1. The isocyanurate insulation shall have a minimum aged R-Value of 30 as required to meet the Long-Term Thermal Resistance (LTTR) value in accordance with ASTM C518 and the 2015 International Building Code (IBC) standards as adopted by the Bureau of General Services (BGS). Note that tapered insulation more than one-inch (> 1”) above the thinnest spot is not allowed to be factored into the average insulation value. (Not including drain sump areas).
2. Tapered insulation shall be a minimum one-eighth inch (⅛”) per foot, and one-half inch (½”) per foot at crickets, drain sumps and around mechanical rooftop units; and meet the required LTTR value in accordance with ASTM C518 as described above.

3. The isocyanurate insulation board size shall be a minimum of two feet by two feet (2’ x 2’) if close to roof edge, or four feet by four feet (4’ x 4’) if located in field of roof square and of uniform dimension.
4. Isocyanurate insulation shall be approved in writing by the insulation and membrane manufacturer that the methods of attachment are covered under the membrane manufacturer’s labor and material warranty. Copies of the written acceptance shall be forwarded to the Engineer.

C. Tapered edge strips:
1. Tapered edge strips shall be eighteen inches wide (18” W) and one- and five-eighth inch thick (1-⅝” THK), tapering to a feathered edge.
2. Tapered edge strips shall consist of either wood fiberboard or isocyanurate insulation.
   a. Wood fiberboard shall be high density, non-asphalt impregnated and conform to ASTM C208 specifications.
   b. Isocyanurate insulation tapered edge strips shall meet ASTM C1289, Type II, Class 1, Grade 2 specifications.
3. Fiberboard insulation shall be approved in writing by the membrane manufacturer. A copy of the written acceptance shall be forwarded to the Engineer.

2.3 COVERBOARD

A. Coverboard insulation shall be one-half inch (½”) minimum thick, glass mat faced, high density polyisocyanurate insulation board or as required by the roofing manufacturer to meet FM Global’s requirement. The boards shall be a maximum of four feet by eight feet (4’ x 8’) in size and approved in writing by the membrane manufacturer. A copy of the written acceptance shall be forwarded to the Engineer. Coverboard insulation shall conform to ASTM C1289 Type II specifications. Compressive strength shall be greater than one hundred pounds per square inch (> 100 psi) in accordance with ASTM D2126. Water absorption shall be three percent (3.0%) or less in accordance with ASTM C209.

2.4 COLD ADHESIVE FOR COVERBOARD AND INSULATION BOARD SECUREMENT

A. Adhesive to adhere the insulation boards and cover board systems shall be considered low volatile compounds (VOC), two (2) components, cold-process, asbestos free, low-rise polyurethane foam adhesive conforming to ASTM D276, D2556, D1875, D429, D816, D1876, D412. Adhesive shall meet the required FM Global rating and shall be approved in writing by the membrane manufacturer and included as part of the warranty coverage. Adhesive shall be I.S.O. stick as manufactured by Insta-Stik Professional Roofing Adhesive as manufactured by Insta-Foam Products, Inc., Olybond by Olympic or as supplied by the Approved roofing membrane system manufacturer as required to meet membrane manufacturer’s requirements and warranty.

2.5 MEMBRANE ADHESIVE

A. Bonding Adhesive: Shall be formulated for compatibility with EPDM membrane and wide variety of substrate materials; Single-Ply low VOC Bonding Adhesive as provided by membrane roofing manufacturer.

B. Adhesive Primer: Synthetic rubber-based primer formulated for compatibility with EPDM membrane and tape adhesive, and shall low VOC as provided by membrane roofing manufacturer.

2.6 AIR/VAPOR RETARDER

A. Self-adhering modified bitumen shall be thirty-two millimeters (32 mil) minimum composite consisting of rubberized asphalt and polyethylene, polypropylene, or polyester sheet as required by the membrane manufacturer.

2.7 FASTENERS AND ACCESSORIES

A. In general, fasteners, straps and other hardware shall be copper, brass, stainless steel or hot-dip galvanized steel. Galvanizing shall be per ASTM A 153-82 specifications.

B. Fasteners for securing insulation to the existing wood deck shall be No.14 threaded square head screw of sufficient length to penetrate the wood roof decking by one-inch (1”), with a fluorocarbon coating in conformance with FM 4470 specifications, installed through minimum three-inch (3”) diameter (nominal), 26-gauge galvalume coated steel stress plates. Fasteners and insulation plates shall be provided as recommended by the insulation and membrane manufacturers.

C. Fasteners for securing membrane to the existing wood deck as required by the roofing system manufacturer to complete the adhered roofing membrane installation shall be No.14 threaded square head screw of sufficient length to penetrate the wood roof decking by one-inch (1”), with a fluorocarbon coating in conformance with FM 4470 specifications, installed through minimum two-inch (e”) diameter (nominal), polymer seam plates. Fasteners and seam plates shall be provided as recommended by the insulation and membrane manufacturers.

D. Securement Strips as may be required by the roofing system manufacturer used horizontally or vertically at the base of walls, curbs, and other penetrations in conjunction with Fastening Plates or Bars below the EPDM membrane shall be six-inch (6”) wide pressure EPDM membrane as supplied by the roofing manufacturer.

E. All accessories, including, but not limited to nails, screws, clips, fastening strips, etc. shall be completely compatible with the material being fastened to prevent galvanic reaction and premature deterioration.

F. Nails for membrane and flashing terminations shall be No. 12 Stubbs gauge, large head, threaded shank, hot dip galvanized roofing nails of sufficient length to penetrate the wood blocking one- and one-quarter inch (1-¼”) minimum.

G. Fasteners for terminating roof membrane and flashing at concrete or masonry substrates shall be minimum one- and one-half inch long (1-½” L) drive pins in zinc sheaths as manufactured by Star, Rawl or approved equal. Embedment into masonry shall be one- and one-quarter inch (1-¼”), minimum.

H. Sheet metal to wood blocking connections and mechanical unit securement (exposed securement): Self-drilling, self-tapping, No. 10, stainless steel hex-head screws, one- and one-half inch long (1-½” L), equipped with metal capped EPDM washers.

I. Fasteners for securement of flashings, and hook strips to wood blocking and plywood substrates shall be galvanized annular threaded ring shank nails. Fasteners shall be of sufficient length to penetrate the substrate one- and one-quarter inch (1-¼”) minimum, except full depth of plywood.

2.8 LIQUID MEMBRANE FLASHING

A. Cold applied two-component polyurethane-based flashing with fleece reinforcement.

B. Liquid membrane flashing shall be LIQUISEAL Liquid Flashing by Carlisle Syntec Systems or as supplied by the Approved roofing system manufacturer as required to meet membrane manufacturer’s requirements and warranty.

2.9 SEALANTS AND ACCESSORIES

A. Sealant for sheet metal flashings and other exposed locations shall be a one-part polyurethane conforming to ASTM C920-87, Type S, Grade NS, Class 25, Uses NT, M, A, and O such as manufactured by Tremco, BASF-Sonneborn, Sika Corp., or approved equal.

B. Color(s) shall be selected by the Owner from the approved manufacturer's color chart. Colors shall be the manufacturer’s available premium colors such as "Color Pak" by Tremco or approved equal.

C. Primer shall be non-staining type as manufactured or recommended by the sealant manufacturer for each substrate.

D. Substrate cleaner shall be non-corrosive and non-staining as recommended by the sealant manufacturer. Cleaner shall be totally compatible with the sealant for each substrate.

E. Bond breaker tape shall be pressure-sensitive tape as recommended by the sealant manufacturer.

F. Masking material shall be commercially available masking tape of appropriate width or other material recommended by the sealant manufacturer. Self-adhesive masking materials shall be of low tack and completely strippable, leaving no adhesive residue behind when removed.

2.10 WALKWAY PADS

A. Walkway pads shall be a black, molded rubber walkway pad with slip resistant surface and factory rounded corners. Size shall be thirty inches by thirty inches

(30" x 30") and three-sixteenths inch (3/16") in thickness.

B. Adhesive and primers shall be as recommended by the manufacturer.

PART 3 - EXECUTION

3.1 GENERAL WORKMANSHIP

A. Do not deliver to site or install any material or system that has not been approved by the Engineer or Owner. Materials installed without approval may be required to be removed at no additional cost to the Owner.

B. The prepared roof deck surface must be dry, clean and smooth. Provide dryers, if necessary, to dry deck surfaces prior to installing new work. Open flame devices shall not be used.

C. Maintain temporary protection of the new and existing roof system throughout the duration of the project. The roof system will be cleaned to the satisfaction of the Owner and Engineer prior to final payment. All areas of stained membrane will be cut out and replaced by the Contractor at no additional cost to the Owner. Multiple patches in close proximity will not be acceptable and will require one large patch.

D. Comply with the manufacturer's written instructions and these specifications for all roof repairs and associated work. Flashing shall be installed along with the membrane to assure weather tight termination.

E. Do not cut any material with a solvent or dilutant unless specifically instructed by the manufacturer in writing.

F. Keep covers tightly sealed on all canned and evaporative products to prevent premature curing.

G. Partial or unmarked cans or rolls of materials cannot be used.

H. Do not store rolls of membrane or flashings on the roof without the written consent of the Engineer and Owner.

I. Refer to the publication, "Copper and Common Sense" by Revere Copper and Brass and all recommendations of the Sheet Metal and Air Conditioning Contractors National Association concerning methods and materials to be used in the fabrication and construction of sheet metal flashings.

3.2 REMOVAL OF EXISTING SYSTEM

A. Remove all existing roofing materials and flashings down to the existing metal roof deck. Notify the Engineer of any areas of unsuitable asphaltic coating, roof deck, or associated components.

B. Remove existing elastomeric roof membrane, base flashings, termination bars, and associated components in their entirety down to existing masonry wall or blocking.

C. Scrape and clean the existing roof deck, walls and penetration surfaces. Notify the Owner and Engineer of any areas of unsuitable roof deck or associated components.

D. Sequence work to minimize building exposure between demolition and new roof materials installation. Install temporary roofing and flashing as necessary to maintain a watertight condition throughout the course of the work. Remove temporary work prior to installation of permanent roof system materials. Only remove as much roofing and flashings as can be made weathertight the same day with the new work. Arrange each day’s termination point to prevent interruption of roof top drainage.

E. Remove existing strainers, clamping rings, and drain bowls from the existing drain assemblies.

F. Temporarily support exposed duct work, conduits and piping.

G. Remove, disconnect, store, and reinstall existing rooftop mechanical equipment in preparation for new roof system. Removals, lengthening/shortening, and reinstallations of mechanical equipment including mechanical/electrical connections are to be performed by licensed tradesmen. Costs for mechanical/electrical work shall be included in the Contractor’s bid price. Coordinate with Section 26 10 00 - Temporary Mechanical/Electrical Disconnects for limits and work activities.

H. Remove existing mechanical equipment support curbs in preparation for installing new curbs at unit locations as indicated.

3.3 DECK PREPARATION

A. Allow moist deck sections to dry prior to application of roof insulation. Open flames are strictly prohibited from the roof areas.

B. Ensure that deck surface and joints are clean of all debris and roofing materials.

3.4 INSTALLATION OF SELF-ADHERED AIR/VAPOR RETARDER

A. Adhered Vapor Retarder: Apply adhesive over substrate as required by manufacturer. Install vapor retarder over area to receive vapor retarder, side, and end lapping each sheet a minimum of three- and one-half inches (3-½") and six inches (6"), respectively. Seal laps by rolling.

B. Extend vapor barrier up vertical surfaces. Completely seal vapor barrier at terminations, obstructions, and penetrations to prevent air movement into roofing system.

3.5 INSTALLATION OF ADHERED INSULATION SYSTEM

A. The multi-layered isocyanurate insulation and coverboard system shall be installed on properly prepared clean, dry surfaces. The base layer of insulation shall be mechanically attached into the wood roof deck through the air vapor barrier layer. Attachment of the base layer of insulation and subsequent layers of insulation and coverboard to be adhered shall be installed to resist the wind loads as shown on the Contract Drawings.

B. Allow moisture on roof surfaces to dry prior to application of insulation. Open flames are strictly prohibited from the roof areas. Ensure that roof surfaces and joints are clean of all debris.

C. Where indicated, install the air barrier to the roof systems in accordance with the manufacturer's requirements.

D. Comply with membrane roofing system manufacturer's written instructions for installing roof system. Insulation boards shall be free of defects including but not limited to, broken corners, improperly adhered facers, excessive moisture, dimensional irregularities, and the like. Defective insulation boards shall be marked and immediately removed from the site.

E. Adhere all insulation boards atop the mechanically attached base layer of insulation. Stagger all end joints to the middle of the long dimension of adjacent insulation boards and stagger insulation layer to layer.

F. Review underside of roof deck for the potential of existing conduits or other equipment that may be positioned within the deck flutes (underneath the roof deck).

G. The minimum dimension on cut insulation boards shall be twelve inches (12") with a minimum surface area of two square feet (2 sq.ft.). Only full-sized insulation boards shall be used at roof perimeters and corners.

H. All insulation boards shall be installed tightly butted to adjacent insulation, roof to walls or wood blocking. If gaps greater than one-eighth inch (> ⅛") exist between boards, the board shall be cut out and replaced.

I. Construct insulation crickets where shown on the Contract Drawings or as required to prevent ponding and direct all run-off water to roof drains.

J. Utilize fiberboard tapered edge strips and polyisocyanurate fillers at all drain locations and as indicated on the Contract Drawings. Step-taper the surrounding insulation system down to the drain bowl location. Maximize drain sumps to match insulation layers (eight feet by eight feet [8' x 8'] minimum sumps).

3.6 COVERBOARD INSTALLATION

A. Install coverboard in cold adhesive applied in strict accordance with the adhesive manufacturer's printed installation instructions to achieve the required warranty.

B. Install the coverboard and immediately "walk" the system into place to spread the adhesive for maximum contact. Stagger all end joints to the middle of the long dimension of adjacent boards, twenty-four inches (24") minimum. Continue to "walk" the coverboard every five- to seven minutes (5-7 mins.) until firm adhesion is achieved. Ballast the boards to prevent cupping. Redistribute ballast to ensure full bonding of the system.

C. Ensure that boards are totally adhered prior to application of roof membrane.

3.7 ADHERED MEMBRANE INSTALLATION

A. It is the intent of this Specification Section to provide the Owner with a new adhered membrane, one hundred percent (100%) bonded to the insulation, of sufficient bond strength to resist uplift pressures as shown on the drawings based on ASCE 7-16.

B. Refer to Section 06 10 00 - Rough Carpentry, regarding the installation of wood blocking and similar accessory woodwork. Be sure all loose or deteriorated bituminous substances are removed with the original system. Clean any items designated to remain of all remaining bitumen.

C. Inspect surface of insulation prior to installation of roof membrane. The insulation surface shall be clean and smooth with no excessive surface roughness. Contaminated surfaces or unsound surfaces such as broken or delaminated boards or insulation voids shall be removed and disposed. Cover boards shall be swept and blown clean of all dust prior to applying bonding adhesives.

D. Install fully adhered elastomeric roofing on all roof areas designated to receive such. Install membrane system in accordance with the recommendations and requirements of the membrane material's manufacturer, as amended in these Specifications. Follow manufacturer requirements concerning application rates for cleaners, solvents, adhesives and similar materials. The application rates for these items given in these Specifications are to be considered nominal and the actual rates will vary from manufacturer to manufacturer.

E. Position roofing membrane without stretching over the insulation. Lay sheets in a shingle fashion. Allow the membrane to relax for minimum one-half hour (½ hr.) before bonding. Fold the sheet back onto itself so that one-half (½) of the underside of the sheet is exposed. It is essential that the fold in the sheet be smooth, with no wrinkles or buckles, because these could cause wrinkles in the sheet during installation. Apply the bonding adhesive in accordance with the manufacturer's published instructions to both the sheet and the substrate, using a nine-inch (9") plastic core paint roller. Apply the bonding adhesive evenly avoiding globs and puddles. Correct application of the bonding adhesive will render approximately sixty square feet per gallon (60 sq.ft./gal.) of finished surface coverage. This is a contact type adhesive and includes coating for the

membrane and coating on the substrate. Allow the adhesive to dry until tacky; the adhesive must not string or stick to a dry-finger touch. Roll the coated membrane into the adhesive, being careful to avoid wrinkles. Brush down the bonded half (½) of the sheet with a push broom to achieve maximum contact. Fold back the unbonded half (½) of the sheet and repeat the bonding procedure. <u>No wrinkles shall be allowed in the completed application. Wrinkled sheets shall immediately be removed and replaced and not patched</u>. Do not apply bonding adhesive in areas that are to be spliced to flashings or adjacent sheets. Apply all sheets in the same manner, lapping adjacent sheet a minimum of six inches (6").

F. Splice adjacent sheets in accordance with the manufacturer's written instructions using the manufacturer's double sided seam tapes (minimum six-inch [6"] tape). Totally clean areas to be spliced of all talc, dirt and other foreign substances using clean rags with manufacturer's splice wash cleaner or other manufacturer's recommended cleaner. <u>Clean all seam areas at least twice (2x) in two (2) separate applications with new rags and cleaner each time</u>. Change the rags and cleaner frequently. It is imperative that these seam areas be totally clean. Install manufacturer's in-seam sealant to cleaned seams as recommended by the membrane manufacturer. Apply seam tape for the full width (minimum six inches [6"]) of the lap splice. Totally clean the completed splice for a distance of one-inch (1") on either side of the edge of the top sheet using clean rags and cleaner. Apply a continuous bead of lap sealant to the edge of the spliced sheet and feather out bead using preformed trowel. <u>Lap sealant must be set daily as the work progresses</u>.

G. Nail off membrane, after relaxing, adhering and splicing, along all perimeters and around all flashing units. Membrane shall be nailed off with the hook strip flange or termination bar along perimeters as detailed. The membrane at all flashing locations shall be nailed off six inches (6") on-center maximum with the specified roofing nails through tin discs. In areas where no metal flanges are installed (such as at roof to wall details), the nailing shall be reduced to four inches (4") on-center maximum. All nailing shall be held back two inches (2") from the edge of the membrane. Vertical nailers, when used, shall be fastened eight inches (8") on-center. Extend membrane behind vertical nailers and secure through it.

H. Temporary waterstops shall be constructed to provide a one hundred percent (100%) watertight seal utilizing a raised temporary waterstop at the end of each day's work. Sweep back and totally clean the gravel and flood coat from the existing roof and set a two-inch by four-inch (2" x 4") stud atop the prepared area in sealant or materials recommended by the membrane manufacturer. Where stopping work on the new system, maintain the stagger of the insulation joints by installing partial fillers. Carry the new membrane up and over two-inch by four-inch (2" x 4") waterstop. Seal the edge of the new membrane onto the old membrane in a continuous heavy application of sealant or materials recommended by the membrane manufacturer. Weight the membrane down in the sealant with a two-inch by ten-inch (2" x 10") wood member with ballast on top. Ballast should be approximately twenty pounds per linear foot (20 lbs./l.f.). When work is resumed, remove all sealant, membrane, insulation fillers, etc. from the area of the waterstop. Do not reuse any of the materials in the new work. If inclement weather occurs while a temporary waterstop is in place, the Contractor shall provide the labor necessary to monitor the situation in order to maintain a watertight condition.

3.8 PEEL STOPS

A. Install continuous peel stop (one-inch by one-eighth inch [1"x ⅛"] aluminum bar) four feet (4'-0") offset at perimeter of roof or as required by the roof manufacturer. Mechanically fasten twelve inches (12") on-center.

B. Strip-in with manufacturer's membrane flashing and provide gaps at eight inches (8") on-center to allow drainage.

3.9 WATERSTOPS

A. All flashings shall be installed concurrently with the roof membrane in order to achieve a watertight condition as the work progresses. When a situation arises where a break in the day's work occurs in the central area of a roof, a temporary waterstop shall be constructed to provide a one hundred percent (100%) watertight seal utilizing a raised temporary waterstop. Sweep back and totally clean the existing roof and set a two-inch by four-inch (2" x 4") stud atop the prepared area in roof cement as recommended by the membrane manufacturer. Where stopping work on the new system, maintain the stagger of the insulation joints by installing partial fillers.

B. Carry the new membrane up and over two-inch by four-inch (2" x 4") waterstop. Seal the edge of the membrane in a continuous heavy application of roof cement. Weight the membrane down in the sealant with a two-inch by ten-inch (2" x 10") wood member with ballast on top. Ballast should be approximately twenty pounds per linear feet (20 lbs./l.f.). When restarting work, remove all sealant, membrane, insulation fillers, etc. from the work area. Do <u>not</u> reuse any of the material in the new work. Cut off contaminated EPDM membrane and dispose of immediately. If inclement weather occurs while a temporary waterstop is in place, the Contractor shall provide the labor necessary to monitor the situation to maintain a watertight condition.

3.10 <u>MEMBRANE FLASHING</u>

A. All flashings shall be installed concurrently with the roof membrane in order to maintain a watertight condition as the job progresses. The Contractor shall arrange his schedule, as much as practical, to install complete distinct roof areas each which, once flashed, will then be installed completely. No temporary membrane flashings shall be allowed without the prior written approval of the Engineer. Approval will only be for specific locations on specific dates.

B. Ensure that all air intakes and air handling units have been shut off or temporary protected to prevent adhesive fumes from infiltrating the building.

C. Ensure that all substrates are free from contaminates prior to the installation of the new flashing membranes. Install the manufacturers' buffer or protection sheets as required.

D. Cured membrane shall be used for flashing purposes as much as practical. Uncured sheets are to be used at vent pipes, inside and outside corners, seams in flashings or at any other location where forming of membrane flashings is required.

E. Flashing sheet shall be spliced to the membrane first, and then bonded to the mating surface. Totally clean the roof membrane area to receive flashing sheet using new, clean rags and manufacturer's splice wash cleaner. All talc, dirt, excess bonding adhesive and other foreign material shall be totally cleaned from the roof membrane sheet. <u>Clean all seam areas at least twice (2x) in two (2) separate applications with new rags and cleaner each time</u>. After cleaning, apply splicing cement to both the underside of the flashing sheet and the prepared roof membrane for a width of minimum six inches (6”). Be sure cement is not on bonding adhesive areas.

F. Apply bonding adhesive to surface of wood, metal, masonry or other material or surface to be flashed. Also apply bonding adhesive to flashing membrane making sure bonding adhesive is not applied to splice area of flashing and using longest possible lengths of flashing membrane. Apply bonding adhesive using rollers or brushes one hundred percent (100%) to all surfaces at a smooth, uniform rate, free of holidays, light spots, globs or similar irregularities, at the manufacturer's application rate. Allow two (2) surfaces of adhesive to dry to a tacky condition, such that adhesive does not stick or string when touched with a dry finger. After bonding adhesive has set on both surfaces, roll flashing onto surface carefully to prevent wrinkles, fishmouths, bridging or similar flaws. Unless otherwise detailed, top of membrane flashings must be minimum eight inches (8") above the surface of the roof membrane, three-inch (3") minimum above the bottom of metal counterflashings, and minimum three inches (3") past the limits of nail heads or other fasteners. Membrane flashings shall extend the full width of horizontal metal flashing flanges (i.e., gravel stops). After setting, roll membrane into place using a two-inch wide (2" W) steel roller and heavy hand pressure. Roll one hundred percent (100%) of the surface to assure total adhesion with no wrinkles or bridging. After rolling, splice vertical or side laps of flashing sheet using minimum six-inch wide (6" W) splices and splicing cement. After applying splicing cement to both mating surfaces of the flashing sheet vertical laps and allowing it to become tacky, roll splice in place as described above.

G. Inside and outside corners and other changes in direction of flashing sheets shall not be butt-type splices at the point of direction change. All flashing sheets shall be jointed past the change in direction. Inside vertical corners shall be folded

with no cuts in the sheet at the corner. Folds shall be "pig's ear" type on flashing sheets entering a corner. Splice shall be made sixteen inches (16") minimum away from corner. Outside vertical corners, such as around curb units, shall extend a minimum of two-inches (2") around the corner for each flashing sheet. Contour flashing sheets in place with light pressure. Flashing sheet may be heated, if ambient temperature is below sixty degrees Fahrenheit (< 60ºF), in order to work them in place. Heating shall be done with heat lamp or air gun. No open flames can be used. All flashings shall be installed in accordance with the approved shop drawings and manufacturer's instructions, unless amended. Flashings shall be turned up and over the tops of curbs as much as practical.

H. Membrane flashing terminating on a vertical surface shall be mechanically fastened to the substrate.
   1. On wood surfaces, termination bars and flashings shall be secured with the specified large head roofing nails spaced six inches (6") on-center maximum or as specifically required by the membrane manufacturer.
   2. On masonry surfaces, termination bars and flashings shall be secured using the specified drive pins through predrilled holes spaced eight inches (8") on-center maximum or as specifically required by the membrane manufacturer.

I. Strip in all metal flanges such as gravel stops and vents with EPDM. Two-ply stripping to be used by applying a six-inch wide (6” W) strip of flashing over which a nine-inch wide (9” W) strip is to be applied. Uncured membrane shall be utilized where required by the manufacturer or by detail conditions. Stripping shall be continuous over the entire flange and extend onto the membrane six inches (6”) minimum.

J. Strip in all roof to wall terminations where new membrane will terminate below the existing membrane wall cladding with EPDM. Uncured membrane shall be utilized where required by the manufacturer or by detail conditions. Stripping shall be continuous over the entire flange and extend onto the membrane three inches (3”) minimum on each side of the lap.

K. Strip in all roofing membrane field seams with a single six-inch wide (6” W) EPDM stripping membrane. An uncured membrane shall be utilized where required by the manufacturer or by detail conditions. Stripping shall be continuous over the entire seam and extend onto the field membrane four inches (4”) minimum.

L. The Contractor shall flash all roof drains with the new roof system. Extend membrane one-half inch (½”) minimum inside clamping ring with a continuous full bead of water cut-off mastic under the membrane.

M. Lap sealant shall be applied daily along all edges of membranes which terminate on the horizontal, gravel stops and similar locations. After proper installation of membrane flashings, clean the area of the lap with the manufacturer’s recommended cleaner and apply continuous bead of lap sealant to all seams,

including vertical laps of the flashings. Feather the sealant bead using the pre-formed trowel. Should uncaulked seams be found to have weathered beneath ponding conditions, the Contractor will be required to strip-in these seams with six-inch (6”) stripping as required by the Owner.

3.11 LIQUID MEMBRANE FLASHING

A. Liquid membrane flashing shall be applied in strict accordance with the supplied flashing by the Approved roofing system manufacturer installation instructions.

3.12 WALKWAY PADS

A. Install membrane manufacturer’s protection mat on the roof surface in locations designated by the Owner.

3.13 SHEET METAL FLASHINGS

A. Refer to Section 07 62 00 - Sheet Metal Flashing and Trim.

3.14 CURB PENETRATIONS

A. Wood blocking shall be installed to provide curbs to support units as required to raise units eight inches (8”) minimum above the roof surface as shown on the Detail Drawings. Refer to Section 06 10 00 - Rough Carpentry for additional information.

3.15 INSTALLATION OF SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at

the same time backings are installed:
1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated, eliminate air pockets, and ensure contact and adhesion of sealant at sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint profile per Figure 8A in ASTM C1193, unless otherwise indicated.
4. Provide flush joint profile where indicated per Figure 8B in ASTM C1193.

5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 8C in ASTM C1193.
6. Use masking tape to protect surfaces adjacent to recessed tooled joints.

3.16 CLEANUP

A. All floor, site and adjacent areas, both interior and exterior, damaged or stained by the installation of the roofing work shall be repaired and cleaned of all dust, debris and any other materials to the Owner's satisfaction.

B. The Contractor shall not demobilize the site until the completed work is toured by the Owner and Engineer. Any unsatisfactory items observed will be reported in "punch-list" form. These items shall be corrected immediately by the Contractor prior to demobilization from the job site. Final payment will not be made until all punch list items are complete and guarantees have been received.

C. All scaffolding, barriers, temporary facilities and the like shall be removed upon completion of the work. Areas damaged as a result of the Contractors equipment shall be restored to their original condition, all to the satisfaction of the Owner.

END OF SECTION

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SHEET METAL FLASHING AND TRIM

SECTION 07 62 00

PART 1 – GENERAL

1.1 IN GENERAL

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

B. Refer to all sections within Division 01 for additional information.

1.2 SCOPE OF WORK

A. In general, the Contractor shall supply all labor, equipment, temporary protection, tools, and appliances necessary for the proper completion of the work as required in the Specifications, in accordance with good construction practice, and as required by the materials manufacturer, as amended. The work under this Section generally includes the following:

B. Perimeter roof gravel stop edge and fascia sheet metal flashing.

C. Gutter with integral drip and downspout.

D. Brick masonry throughwall flashing and counterflashing.

E. Door opening and threshold flashing at Penthouse roof access door.

1.3 RELATED WORK SPECIFIED ELSEWHERE

A. Section 04 01 20 - Masonry Restoration and Cleaning
B. Section 06 10 00 - Rough Carpentry
C. Section 07 53 00 - Elastomeric Roofing and Flashing

1.4 REFERENCES

A. Sheet Metal and Air Conditioning Contractors' National Association's (SMACNA's) "Architectural Sheet Metal Manual."

B. National Roofing Contractor's Association's (NRCA's) Roofing Manual, 2022 Edition.

C. Copper Development Association's (CDA's) "Copper in Architecture Design Handbook".

D. Revere Copper Product's "Copper and Common Sense - Sheet Copper Design Principles and Construction Techniques Manual, 9th Edition."

E. ASTM A653 / A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

F. Factory Mutual Global (FMG) data sheet FM1-49.

1.5 SUBMITTALS

A. Refer to Section 01 33 00 - Submittal Procedures for additional information.

B. Provide a project specific safety plan and job hazard analysis.

C. Product Data: For each type of product indicated. Include recommendations for application and use. Include test data substantiating that products comply with requirements.

D. Samples for Verification: Before erecting mockup, submit samples of the following:
1. Color charts or chips for initial color selection by the Owner.
2. Sheet Metal Flashing: Twelve inches long (12” L). Include fasteners, cleats, clips, closures, and other attachments.
3. Trim: Twelve inches long (12” L). Include fasteners and other exposed accessories.
4. Accessories: Full-size Sample.

E. Shop Drawings: Show layouts of sheet metal flashing and trim, including plans and elevations. Distinguish between shop and field assembled work. Include the following:
1. Identify material, thickness, weight, and finish for each item and location in Project.
2. Details for forming sheet metal flashing and trim, including profiles, shapes, seams, and dimensions.
3. Details for fastening, joining, supporting, and anchoring sheet metal flashing and trim, including fasteners, clips, cleats, and attachments to adjoining work.
4. Details of expansion-joint covers, including showing direction of expansion and contraction.

1.6 QUALITY ASSURANCE

A. Installer: Company specializing in the type of work required for this project, with not less than ten years (10 yrs.) of documented experience.

B. Regulatory Requirement: All local building code requirements are to be followed for both design and installation of the new roof system.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver sheet metal flashing materials and fabrications undamaged. Protect sheet metal flashing and trim materials and fabrications during transportation and handling.

B. Unload, store, and install sheet metal flashing materials and fabrications in a manner to prevent bending, warping, twisting, and surface damage.

C. Stack materials on platforms or pallets, covered with suitable weathertight and ventilated covering. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage.

1.8 SPECIAL JOB CONDITIONS

A. The building occupants are highly sensitive to fumes, odors, noise, and disturbances. The Contractor shall submit a detailed sequence schedule for the roof area prior to the start of work and shall coordinate daily schedules with the Owner.

B. The Contractor shall utilize skilled and experienced specialty workers to install the work. Experienced trade workers shall be utilized for all aspects of the work.

C. All new and temporary construction, including equipment and accessories, shall be secured from wind damage or blow-off.

D. The Contractor is cautioned to take all necessary precautions and make all investigations necessary to install the work. The Owner will not consider unfamiliarity with the job conditions as a basis for additional compensation.

E. Hot work of any kind should be avoided. If there is a practical and safer way to do the job without hot work, the alternative method should be used. If hot work is unavoidable, precautions such as those outlined on the FM Global Hot Work Permit System should be taken during any such work.

1.9 JOB CONDITIONS

A. The Contractor shall supply, install and maintain all shoring, supports, barriers, protection, temporary heat, warning lines, lighting and personnel required to support the structure, fixtures and facilities affected by his work and segregate the work area(s) from pedestrian or vehicular traffic, as well as to prevent damage to the building, occupants and the surrounding landscaped and paved areas.

B. Schedule and execute all work without exposing the interior building areas to inclement weather. Protect the existing building and its contents against all risks, and repair or replace all damage to the Owner's satisfaction.

C. Coordinate the work in this section with the work by other trades to ensure the orderly progress of the work.

D. Under no circumstances shall the Contractor remove existing materials and systems to the ground in an uncontrolled manner. Machinery or devices used shall be manufactured for this purpose. Adjacent building and property areas shall be protected from airborne debris.

E. During removal operations, the Contractor is responsible for the containment of all dust, dirt, debris, overspray, and run-off resulting from the work. The Contractor shall collect and contain all materials and repair any resulting damage to adjacent surfaces, site fixtures or personal property. Specific attention is drawn to the use of chemicals and cleaners.

F. Fully charged, inspected, and approved fire extinguishers shall be on site at all times. No cutting, grinding, or welding of any kind shall proceed without an approved, fully charged fire extinguisher.

G. The Contractor shall utilize skilled and experienced specialty workers to install all aspects of the work.

1.10 WARRANTY

A. See Division 01 Section “Summary of Work” for contractor’s warranty.

B. The perimeter gravel stop edge metal and fascia shall be included as part of the Roofing Contractor’s five year (5 yr.) warranty as specified in Section 07 53 00 - Elastomeric Roofing and Flashing.

PART 2 – PRODUCTS

2.1 SHEET METALS

A. Tin-Zinc alloy coated copper shall be cold rolled sheet copper conforming to ASTM B-101-78 and shall be twenty ounces (20 oz.) as specified. Tin-Zinc coating shall be applied by hot dip process to achieve a coating approximately 0.5 mils thick. Sheet length shall be eight feet (8’) maximum.

B. All accessories, including but not limited to nails, screws and clips shall be stainless steel or galvanized steel and completely compatible with the surrounding metal to prevent galvanic reaction. Galvanizing shall be per ASTM A153-09.

C. Termination bars shall be one-eighth inch by one-inch (⅛" x 1") stainless steel or aluminum bar (as required to prevent galvanic action with the flashings being secured) with pre-punched holes at six inches (6”) on-center, or as required by the membrane manufacturer.

D. Clamps shall be screw adjustable stainless-steel hose clamps with a minimum three-eighths inch (⅜”) band width.

E. Rivets shall be three-sixteenths inch (3/16") diameter copper or stainless steel as required by the metal being secured.

F. Rivets for securing twenty-four ounce (24 oz.) and thicker copper shall be solid rivets.

G. Sheet metal flashings shall be shop fabricated. All breaks, bends and hems shall be uniform, clean, straight lines.

1. Tin-Zinc alloy coated copper joints shall be adequately overlapped, soldered and riveted.
2. Flanges shall be four inches wide (4" W) minimum.
3. Inside and outside corners shall be four inches wide (4” W) minimum.
4. Drip edges shall be hemmed three-quarters inch wide (¾” W) and break at a thirty-degree (30º) angle.

5. Clips shall be two-inch wide (2” W).
6. All flanges to be covered with roofing or flashing membranes shall have a one-quarter inch (¼”) minimum hem on the edge.
7. All sheet metal joints shall have six-inch wide (6” W) cover and backer plates.
8. Blind nailers shall be four-inch wide (4” W), folded to two-inch wide (2” W) final dimension.
9. Fascia reveals shall not exceed eight inches (8”). Fascia requiring a greater vertical face than eight-inch (8”) shall be fabricated as a two-piece system with each face of equal exposure.
10. Maintain equal fascia height around entire perimeter of each roof area and where fascia’s abut.

2.2 FLEXIBLE MEMBRANE WALL FLASHING:

A. Thirty-two millimeters (32 mil [0.8 mm]) of self-adhesive rubberized asphalt integrally bonded to eight millimeters (8 mil [0.2 mm]) of cross-laminated, high-density polyethylene film to provide a minimum forty millimeters (40 mil [1.0 mm]) thick membrane. Membrane shall be interleaved with disposable silicone-coated release paper until installed, conforming with the following:
   1. Puncture Resistance: ASTM E154: Minimum 80 lbs.(356 N).
   2. Pliability, Low Temperature Flexibility: ASTM D1970: Pass at -45ºF (-43ºC).
   3. Tensile Strength: ASTM D412, Die C Modified: Minimum 1,200 psi (8.3 MPa).
   4. Elongation: ASTM D412, Die C: Minimum 200%.

B. Perm-A-Barrier by GCP Applied Technologies or Approved Equal.

2.3 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.

B. Solder for Tin-Zinc Alloy Coated Copper: ASTM B32, pure tin or lead-free high-tin of type recommended by the tin-zinc alloy coated copper sheet manufacturer.

C. Sealing Tape: Pressure-sensitive, one hundred percent (100%) solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, non-staining tape.

D. Elastomeric Sealant: ASTM C920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

E. Mastic for back-sealing sheet metal against non-metal substrates shall be as recommended by the underlayment manufacturer. Concealed sealant for back-sealing metal-to-metal connections shall be single-component, butyl (polyisobutylene) rubber sealant, heavy bodied for joints with limited movement.

F. Red Rosin paper (separation layer) shall be five-pound (5 lb.) kraft paper.

G. <u>Bituminous Coating to separate incompatible metals</u>: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for fifteen millimeter (15-mil) dry film thickness per coat.

H. Self-Adhering Modified Bitumen shall be a thirty-two millimeter (32-mil) thick minimum with four millimeter (4-mil), high-density polyethylene film and release paper backing formulated for high temperature installation in accordance with ASTM D1970, such as Grace Ice & Water Shield HT, as manufactured by GCP, WinterGuard HT by CertainTeed, WIP 300HT by Carlisle, or approved equal.

2.4 <u>FABRICATION SCHEDULE</u>

A. Note, similar flashing components have been listed under multiple metal fabrications type and thicknesses. The Contractor shall coordinate the use of compatible metals to prevent galvanic corrosion and coordinate painted finish components at visible locations.
   1. Twenty-ounce (20 oz.) Tin-Zinc Coated Copper:
      a. Gravel stop and edge metal fascia.
      b. Gutter with integral drip and downspout.
      c. Counterflashing (at throughwall flashing).
      d. Door threshold flashing.
      e. Door head and jamb flashings.
      f. Miscellaneous sheet metal flashings.
      g. Blind nailers.
      h. Two-inch wide (2” W) clips (at throughwall flashing).

2.5 <u>FASTENERS</u>

A. In general, fasteners, straps and other hardware shall be copper, brass, stainless steel, or hot-dip galvanized steel. Galvanizing shall be per ASTM A153 specifications. Electro-galvanizing will not be accepted.

B. Fasteners for securement of flashings and hook strips to concrete or masonry shall be one-quarter inch (¼”) diameter hammer drive anchors with zinc sheaths and flat heads such as Zamac Nailins or approved equal. Anchors shall be of sufficient length to penetrate the substrate one- and one-quarter inch (1-¼”) minimum.

C. Sheet metal to wood blocking connections and mechanical unit securement (exposed securement): Self-drilling, self-tapping, No. 10, stainless steel hex-head screws, one- and one-half inch long (1-½” L), equipped with metal capped EPDM washers.

D. Nails for flashing securement at wood substrates shall be No. 12 Stubbs gauge, large head, threaded shank, copper, or galvanized steel nails minimum one-inch long (1” L).

E. Fastens for securement of the pre-manufactured edge metal shall be recommended by the manufacturer.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of work.
   1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
   2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
   1. Torch cutting of sheet metal flashing and trim is not permitted.

B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.
   1. Coat side of stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim will contact wood, ferrous metal, or cementitious construction.
   2. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of self-adhering modified bitumen underlayment and cover with a slip-sheet or install a course of polyethylene underlayment.
   3. Bed flanges in thick coat of asphalt roofing cement where required for waterproof performance.

C. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.

D. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and elastomeric sealant.

E. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
   1. Space cleats not more than twelve inches (12") apart. Anchor each cleat with two (2) fasteners. Bend tabs over fasteners.

F. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of ten-feet (10') with no joints allowed within twenty-four inches (24") of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used, or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than one-inch (1”) deep, filled with elastomeric sealant concealed within joints.

G. Fasteners: Use fasteners of sizes that will penetrate substrate not less than one- and one-quarter inches (1-¼”) for nails and not less than three-quarter inch (¾-“) for wood screws.
   1. Galvanized or Pre-Painted, Metallic-Coated Steel: Use stainless-steel fasteners.
   2. Aluminum: Use aluminum or stainless steel fasteners.
   3. Stainless Steel: Use stainless-steel fasteners.

H. Seal joints with elastomeric sealant as required for watertight construction.
   1. Where sealant-filled joints are used, embed hooked flanges of joint members not less than one-inch (1”) into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is moderate, between forty- and seventy degrees Fahrenheit (40ºF-70ºF) set joint members for fifty percent (50%) movement either way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below forty degrees Fahrenheit (< 40º F).

I. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of one- and one-half inches (1-½”) except where pre-tinned surface would show in finished Work.
   1. Do not solder aluminum sheet.
   2. Stainless-Steel Soldering: Pre-tin edges of uncoated sheets to be soldered using solder recommended for stainless steel and phosphoric acid flux. Promptly wash off acid flux residue from metal after soldering.
   3. Do not use open-flame torches for soldering. Heat surfaces to receive solder and flow solder into joints. Fill joints completely. Completely remove flux and spatter from exposed surfaces.

3.3 INSTALLATION OF PERIMETER WOOD BLOCKING

A. Coordinate the installation of the perimeter wood blocking with Section 06 10 00 - Rough Carpentry.

3.4 SHEET METAL FLASHINGS

A. General: Install sheet metal roof flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight.

B. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending a minimum of four inches (4”) over base flashing. Install stainless steel draw band and tighten.

C. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing four inches (4”) over base flashing. Lap counterflashing joints a minimum of four inches (4”) and bed with elastomeric sealant.
   1. Secure in a waterproof manner by means of snap-in installation and sealant.

D. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Install flashing as follows:
   1. Seal with elastomeric sealant and clamp flashing to pipes penetrating roof except for flashing on vent piping.

3.5 SKIRT FLASHINGS

A. Fabricate skirt flashings to the configurations shown on the Contract Drawings.

B. Insert flashings beneath new counterflashings or skirt flashings as detailed. Overlap adjacent sections a minimum of three inches (3”).

C. Secure wall flashing skirt flashing with clips at twelve inches (12”) on-center and a minimum of two (2) per section. All fasteners shall be concealed.

3.6 COUNTERFLASHINGS

A. Fabricate new counterflashing and receivers to the dimensions and shapes shown in the Contract Drawings and as specified herein.

B. Secure counterflashings with clips where indicated. Fabricate and secure clips as previously specified.

3.7 BLIND NAILERS

A. Fabricate and install blind nailer with a two-inch (2”) minimum leg inserted behind membrane. Fasten flashing through leg of blind nailer.

B. Fold blind nailer to two-inch wide (2” W) final dimension with one-half inch (½”) hemmed edge over fastener.

C. Provide continuous beads of sealant at back and leading edges.

3.8 CONTINUOUS CLEATS AND HOOK STRIPS

A. Form continuous cleats/hook strips with three-quarter inch (¾”) kicks, bent out at a thirty degree (30º) angle to the face or wall. Height of continuous cleats/hook strips shall be as indicated on the Detail Drawings.

B. Secure continuous cleats/hook strips to wood blocking with the specified fasteners spaced at six-inches (6") on-center.

C. Provide one-eighth inch (⅛") butt joints between hook strip sections.

3.9 SECUREMENT CLIPS

A. Secure clips to substrate with the specified fasteners at minimum six inches (6") on-center, or as indicated on the Detail Drawings.

B. Bend clips a minimum of one-inch (1") over bottom drip edge of flashing and crimp tightly.

3.10 GUTTERS AND ASSOCIATED COMPONENTS

A. Fabricate and install gutter and downspout assemblies where shown on the roof area plan and as detailed.

B. Gutter shall be formed to replicate the profile of the unit being replaced. The dimensions shown on the roof details are approximate and shall be confirmed in the field. Overlap each section three inches (3") minimum, rivet with two (2) fasteners per lap and solder one hundred percent (100%) to provide a watertight connection.

C. Nail gutter flange three inches (3") on-center maximum and staggered over the underlayment into wood blocking.

D. Install gutter stiffening bar and hangars as shown in the Contract Drawings.

E. Maximum length of gutter sections shall be ten feet (10').

F. Gutter hangers shall be spaced at sixteen inches (16") on-center. Provide gutter supports at sixteen inches (16") on-center to coincide with the gutter dogs. Gutter supports shall be installed underneath the gutter lining and shall match the profile of the gutter, extending from the vertical fascia below the eave over the top face of the exterior wood blocking and be nailed to the wood blocking at the top and inside vertical face.

G. Downspouts shall be minimum three inches (3") and shall extend the full height from grade to the bottom of the gutter. Seams, if present, shall be located along the back side. The upper end of the downspout shall be connected to the outlet tube.

H. Install two-inch (2") minimum wide securement straps with one-half inch (½") hemmed edges every three feet (3') on-center to secure downspouts. Downspouts shall have three (3) straps minimum. Straps shall be installed at the top, bottom, and middle of each ten-foot (10') section.

I. Insert downspout strainers at each downspout location.

J. Locate outlet tubes as shown on the roof plan, and to match that of the existing configuration. Outlet tubes shall extend three inches (3") minimum into downspout. Tubes shall be constructed with a longitudinal seam and the upper edge flanges one-half inch (½"). Flange shall be riveted and soldered to gutter.

K. Insert downspout strainers at each downspout location and solder units in place.

3.11 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder and sealants.

C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain in a clean condition during construction.

D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

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HOLLOW METAL DOORS AND FRAMES

SECTION 08 11 10

PART 1 – GENERAL

1.1 IN GENERAL

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

B. Examine all Drawings and all Sections of the Specifications for requirements and provisions affecting the Work of this Section.

C. Coordinate work with that of all other trades impacting or impacted by work of this Section. Cooperate with such trades to ensure the steady progress of all work under the Contract.

1.2 SCOPE OF WORK

A. In general, the Contractor shall supply all labor, equipment, temporary protection, tools, and appliances necessary for the proper completion of the work as required in the Specifications, in accordance with good construction practice, and as required by the materials manufacturer, as amended. The work under this Section generally includes the following:
   1. Removal and disposal of existing roof access wood door, frame, hardware, and weatherstripping.
   2. Furnish and install new thermally broken and insulated hollow metal roof access door and frame with insulated glass vision lite. Refer to Section 08 80 00 - Glass and Glazing for glass requirements.
   3. Furnish and install new door hardware and weatherstripping.

B. Door Assembly U-factor: Maximum U-0.77

C. Doors and frames shall be factory primed, and shop painted. For shop painting work, refer to Section 09 91 00 - Painting

D. Clean and restore all areas affected by the work to the satisfaction of the Owner.

1.3 RELATED WORK SPECIFIED ELSEWHERE

A. Section 06 10 00 - Rough Carpentry
B. Section 07 53 00 - Elastomeric Roofing and Flashing
C. Section 07 62 00 - Sheet Metal Flashing and Trim
D. Section 08 80 00 - Glass and Glazing
E. Section 09 91 00 - Painting

1.4 SUBMITTALS

A. Provide a project specific safety plan and job hazard analysis.

B. Product Data: For each type of product indicated. Include recommendations for application and use. Include test data substantiating that products comply with requirements.

C. Samples for Verification: Before erecting mockup, submit samples of the following:
   1. Door: Submit manufacturer’s sample of door showing face sheets, core, framing, and finish.
   2. Color: Submit two (2) complete sets of selected face sheet samples with the standard finish colors representing manufacturer’s full range of available colors and finishes.

D. All shop drawings submitted shall be checked by the Contractor and indicated as such on the shop drawings. Submit shop drawings for approval prior to fabrication.
   1. Elevations of each door design.
   2. Details of doors, including vertical and horizontal edge details and metal thicknesses.
   3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
   4. Locations of reinforcement and preparations for hardware.
   5. Details of each different wall opening condition.
   6. Details of anchorages, joints, field splices, and connections.
   7. Details of accessories.
   8. Details of moldings, removable stops, and glazing.

E. Schedule: Provide a schedule of hollow metal work prepared by or under the supervision of the supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with door hardware schedule.

F. Material Test Reports: Submit certified test reports for all referenced materials.

G. Maintenance Data: Submit manufacturer’s maintenance and cleaning instructions for doors, including maintenance and operating instructions for hardware.

H. Product Test Reports: Based on evaluation of comprehensive fire tests performed by a qualified testing agency, for each type of standard steel door and frame.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

B. Source Limitations: Obtain standard steel doors and frames through one source from a single manufacturer.

C. Pre-Installation Conference: Conduct conference at Project site to comply with requirements in Division 01.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials and products in labeled protective packages. Store and handle in strict compliance with manufacturer's instructions and recommendations. Protect from damage from weather, excessive temperatures and construction operations.

B. Deliver doors and frames palletized, wrapped, or crated to provide protection during transit and Project-site storage. Do not use non-vented plastic.

C. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

D. Store all materials under cover at Project site. Place in stacks of five (5) units maximum in a vertical position with heads up, spaced by blocking, on minimum four-inch high (4" H) wood blocking. Do not store in a manner that traps excess humidity. Provide minimum one-quarter inch (¼") space between each stacked door to permit air circulation.

1.7 JOB CONDITIONS

A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

B. The Contractor shall supply, install and maintain all shoring, supports, barriers, protection, temporary heat, warning lines, lighting and personnel required to support the structure, fixtures and facilities affected by his work and segregate the work area(s) from pedestrian or vehicular traffic, as well as to prevent damage to the building, occupants and the surrounding landscaped and paved areas.

C. The Contractor shall remove only the existing door and frame as can be replaced the same day with new doors, frames and hardware complete in working order. The Contractor shall inspect the installation and ascertain that locks are properly secured and exit devices and latches are functioning at the end of each day.

D. The Contractor shall be responsible for the accuracy of the quantities, sizes, finish and proper hardware to be furnished whether specifically mentioned or not and shall be responsible for determining all details, such as hand of door, bevel of locks, etc.

E. The Contractor is responsible for securing and protecting equipment, materials, and tools (as well as partially completed construction) from vandalism or abuse.

F. The Contractor shall repair or replace all damaged areas as a result of work. Areas repaired or replaced shall be to the satisfaction of the Owner and at no cost to the Owner.

G. Schedule and execute all work without exposing the interior building areas to inclement weather. Protect the existing building and its contents against all risks, and repair or replace all damage to the Owner's satisfaction.

H. Coordinate the work in this section with the work by other trades to ensure the orderly progress of the work.

I. Under no circumstances shall the Contractor remove existing materials and systems to the ground in an uncontrolled manner. Machinery or devices used shall be manufactured for this purpose. Adjacent building and property areas shall be protected from airborne debris.

J. During removal operations, the Contractor is responsible for the containment of all dust, dirt, debris, overspray, and run-off resulting from the work. The Contractor shall collect and contain all materials and repair any resulting damage to adjacent surfaces, site fixtures or personal property. Specific attention is drawn to the use of chemicals and cleaners.

K. Fully charged, inspected, and approved fire extinguishers shall be on site at all times. No cutting, grinding, or welding of any kind shall proceed without an approved, fully charged fire extinguisher.

L. The Contractor shall utilize skilled and experienced specialty workers to install all aspects of the work.

1.8 COORDINATION

A. Coordinate installation of anchorages for hollow metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

1.9 PROTECTION OF WORK AND MATERIALS STORAGE

A. Store materials in a protected dry area off the ground floor with a minimum one-quarter inch (¼”) space between pieces. Follow the storage and handling requirements of the manufacturer.

B. Glazing materials shall be delivered in the manufacturer’s original, unopened containers, leaving manufacturer’s labels intact.

C. All packages shall be legibly labeled indicating the manufacturer’s numbers, types, sizes, and hardware schedule reference number. All hardware shall be protectively wrapped and shall be packed in the same package as all screws, bolts and fasteners required for proper installations. Items shall be free from nicks, scratches, and blemishes. Defective and/or damaged materials shall be
replaced by the Contractor, at no expense to the Owner.

D. Protect installed doors against damage from other construction work. Scratches or disfigurement caused in shipping, handling or installation shall be promptly cleaned and touched up with rust inhibitive enamel.

1.10 WARRANTY

A. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official.

B. Warrant doors and factory hardware against failure in materials and workmanship, including excessive deflection, faulty operation, defects in hardware installation, and deterioration of finish or form in excess of normal weathering. Defects shall include, but shall not be limited to:
   1. Warp or twist of one-quarter inch (¼") or more in any three feet six-inches by seven-foot (3'-6" x 7'-0") section of a door.
   2. Telegraphing of any part of the core assembly through the face to cause surface variation of one-one hundredth of an inch (1/100") or more over a three-inch (3") span.
   3. Delamination to any degree.
   4. Replacement under this warranty shall include reasonable cost of hanging, installation of hardware, and finishing.

C. Warranty Period: Minimum ten year (10 yrs.).

D. Provide guarantee from hardware supplier as follows:
   1. Closers: Ten years (10 yrs.).
   2. Exit Devices: Three years (3 yrs.).
   3. Hinges: Life of building.
   4. All other hardware: One year (1 yr.).

E. Products judged to be defective during the warranty period shall be replaced or repaired in accordance with the manufacturer's warranty, at no cost to the Owner.

F. No liability is to be assumed where damage or faulty operation is due to improper usage or abuse.

G. See Division 01 Section "Summary of Work" for contractor's warranty.

H. The start date for all warranty periods shall be the date of substantial completion of the project.

I. See Division 01 Section "Summary of Work" for contractor's warranty.

1.11 MAINTENANCE

A. Furnish a complete set of specialized tools and maintenance instructions as needed for the Owner's continued adjustment, maintenance, removal and replacement of door hardware.

B. At the completion of the job furnish two (2) copies of the following:
1. Maintenance instructions for each item of hardware.
2. Catalog pages for each product.
3. Name, address and phone number of the local representative of each manufacturer.
4. Parts list for each product.
5. Copy of the final hardware schedule.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Ceco Door Products / ASSA ABLOY.
2. De LaFontaine Industries.
3. Steelcraft / Allegion plc.

2.2 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A1011/A1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B; with minimum G60 metallic coating.

D. Frame Anchors: ASTM A591/A591M, Commercial Steel (CS), 40Z coating designation; mill phosphatized.
1. For anchors built into exterior walls, steel sheet complying with ASTM A1008/A1008M or ASTM A1011/A1011M, hot-dip galvanized according to ASTM A153/A153M, Class B.

E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A153/ A153M.

F. Mineral-Fiber Insulation: ASTM C665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool with six- to twelve pounds per cubic feet (6- 12-lbs./cu. ft.) density; with maximum flame- spread and smoke-development indexes of twenty-five (25) and fifty (50), respectively; passing ASTM E136 for combustion characteristics.

G. Isolation Coating: ASTM D1187, cold-applied asphalt emulsion, VOC compliant, compounded for fifteen millimeter (15-mil) dry film thickness per coat. Provide inert-type non-corrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.3 STEEL FRAMES

A. General: Comply with ANSI A250.8 and with details indicated for type and profile.

B. Exterior Frames: Fabricated from metallic-coated steel sheet.
1. Fabricate frames with full profile welded joints.
2. Frames for Level 3 Steel Doors: 0.067-inch-thick steel sheet.
3. Integral Silicone Thermal Break.

C. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcement plates from same material as frames.

2.4 HOLLOW METAL DOORS

A. Gauges:
1. Gauges specified herein are U.S. Standard for ferrous metals, and Brown and Sharpe for non-ferrous metals. Gauges and thickness of materials shown conform to the minimum requirements specified for the particular item. Where these requirements are not specified in detail, the materials shall be suitable for the intended usage of the item.

B. Hollow Metal Doors:
1. Metal doors shall be one- and three-quarters inch thick (1-¾" THK), insulated, flush type and constructed of new prime quality cold-rolled or hot-rolled stretcher-leveled steel. The face plates for doors shall be formed from 16-gauge stainless steel. All dimensions shall be as shown on the Contract Drawings and field-verified by the Contractor.
2. Doors shall have continuous internal reinforcing channels or Z-shaped members of 16-gauge steel, full height of door, spaced not more than six inches (6") on-center and spot welded to face sheets three inches (3") on-center. Provide 16-gauge stile channels and 16-gauge horizontal stiffeners channels at top and bottom of doors welded to face sheets. All hollow portions of doors shall be completely filled with mineral rock wool or approved equal. Exposed joints shall be fully welded and ground smooth. Interlocking joints or seams will not be permitted on door faces or edges. Doors shall have 16-gauge flush top and bottom channels continuously welded to face sheets, sealed against water. Inverted channels are not acceptable.
3. Doors shall be prepared and reinforced to receive door hardware in accordance with the approved door hardware schedule and template.
4. Where surface-mounted hardware is to be applied, doors shall have reinforcing plates only. All drilling and tapping shall be done in the field.
5. Minimum gauges for hardware reinforcing plates shall be as follows:
   a. Hinge and pivot reinforcements: 7-gauge.
   b. Lock Face: 14-gauge.
   c. Reinforcements for all other surface-mounted hardware: 16-gauge.
   d. Closers: 12-gauge.

6. All welds and joints shall be ground smooth. Doors shall be thoroughly cleaned, filled and sanded prior to painting. All welds and areas of fabrication damage shall be treated with a cold galvanizing compound.
7. All doors and accessories shall be given one shop coat, all over, of the specified primer paint.

C. Fasteners:
   1. All screws, nuts, washers, bolts and other miscellaneous fastening devices incorporated in the product shall be stainless steel compatible with steel and aluminum. Submit all fasteners to the Designer for review prior to installation.

2.5 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for each door to comply with requirements in this Section, door hardware sets indicated in door and frame schedule, and door hardware sets indicated in the Hardware Schedule.
   1. Hardware Schedule: Provide item, quantity, size, and finish or color indicated.
   2. Sequence of Operation: Provide electrified door hardware function, sequence of operation, and interface with other building control systems indicated.

B. Designations: Provide requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware as indicated in the Hardware Schedule. Products are identified by descriptive titles corresponding to requirements specified in Part 2 - Products.

2.6 FINISH HARDWARE MATERIALS

A. Furnish items of hardware required to complete the work in accordance with these specifications and the manufacturer's instructions. Items or hardware not specified shall be provided even though inadvertently omitted from this specification. Items shall be of equal quality and type to those listed herein.

B. Hardware shall comply with the requirements of the following standards. American National Standard Institute (ANSI) numbers are specified for hardware items, except when only Builders Hardware Manufacturers Association (BHMA) numbers are available.
   1. American National Standard Institute (ANSI):
      a. ANSI 156.1 Butts and Hinges (Grade 1)
      b. ANSI 156.13 Mortise and Locks and Latches (Grade 1)
      c. ANSI 156.3 Exit Devices (Grade 1)
      d. ANSI 156.4 Door Controls - Closers
      e. ANSI 156.7 Template Hinge Dimensions
      f. ANSI 156.8 Door Controls - Overhead Holders
   2. Builders Hardware Manufacturers Association (BHMA):
      a. BHMA 1301 Materials and Finishes
      b. BHMA 1201 Auxiliary Hardware

C. All hardware shall be best grade, entirely free from imperfections in manufacture and finish. Qualities, weights, and sizes specified herein are the minimum that will be accepted.

D. Note that even though an acceptable manufacturer may be listed, the product must provide all the functions and features of the specified product or it will not be approved.

E. Finish of all hardware items shall be ANSI Code 630, Satin Stainless Steel (US32D) unless otherwise noted.

F. Exposed fasteners shall be stainless steel as recommended by the hardware manufacturers for each hardware item specified.

2.7 SURFACE CLOSERS

A. Surface Closers: BHMA A156.4; rack-and-pinion hydraulic type with adjustable sweep and latch speeds controlled by key-operated valves and forged-steel main arm. Comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.
   1. Manufacturers: Subject to compliance with requirements, provide one of the following:
      a. LCN Closers; an Allegion Company; 4000 Series Cush-N-Stop.
      b. Norton Door Controls, an ASSA ABLOY Group Company; PR7500/PR7700.
      c. SARGENT Manufacturing Company; an ASSA ABLOY Group Company; 281 Series.

B. Door Closers for Means of Egress Doors: Comply with NFPA 101. Door closers shall not require more than thirty pounds (30 lbs.) to set door in motion, and not more than fifteen pounds (15 lbs.) to open door to minimum required width.

C. Size of Units: Unless otherwise indicated, comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.

D. Surface Closer with Cover: BHMA A156.4, Grade 1. Provide type of arm required for closer to be located o non-public side of door, unless otherwise indicated.
   1. Mounting: heavy-duty, parallel arm, unless otherwise indicated. Provide extended mounting plate where required, where attachment to door frame or door leaf is unachievable at the set closer template.
   2. Type: Where designated, provide hold-open arm, heavy-duty. Provide delayed action closing where indicated
   3. Backcheck: Adjustable, effective between sixty- and eighty-five degrees (60º-85º) of door opening.

4. Where indicated, closer must operate at one hundred eighty degree (180º) opening.
5. Provide all drop plate brackets, shims and angle brackets as required to complete installation of closers on doors and frames.
6. Cover Material: Steel.

2.8 EXIT DEVICES

A. Exit Devices: BHMA A256.3, Grade 1
   1. Basis-of-Design Product: Subject to compliance with requirements, provide Schlage L Series mechanical mortise locks, or comparable product by one of the following:
      a. Corbin Russwin Architectural Hardware; an ASSA ABLOY Group Company
      b. SARGENT Manufacturing Company; an ASSA ABLOY Group Company.

B. Rim Exit Devices:
   1. Grade: Grade 1.
   2. Material and Finish: Stainless Steel, 630 Satin
   3. Trim: Standard Type 801 – Milled Tactile Warning
   4. Function: Double Cylinder Non-Deadbolt, Store Lock, L9066
   5. Cylinder: Full Size Interchangeable Core, 6-pin

2.9 CONTINUOUS HINGES

A. Continuous, Gear-Type Hinges: Extruded-aluminum, pinless, geared hinge leaves; joined by a continuous extruded-aluminum channel cap; with concealed, self-lubricating thrust bearings.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. IVES Hardware; an Ingersoll-Rand Company
      b. Hager Companies; Hager-Roton
      c. McKinney Products Company; an ASSA ABLOY Group Company
      d. Pemko Manufacturing Co.
      e. Select Products Limited
   2. Grade: 1-150
   3. Type: Fully Concealed.

2.10 FRAME ANCHORS

A. Jamb Anchors:
   1. Provide for metal framed openings

B. Floor Anchors:
   1. Provide for wood nailers.

2.11 STOPS AND MOLDINGS

A. Moldings for Glazed Lites in Doors: Minimum 0.032 inch thick, fabricated from same material as door face sheet in which they are installed.

B. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of five-eighths inch high (⅝” H) unless otherwise indicated.

C. Loose Stops for Glazed Lites in Frames: Minimum 0.032 inch thick, fabricated from same material as frames in which they are installed.

2.12 FABRICATION

A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

B. Tolerances: Fabricate hollow metal work to tolerances indicated in SDI 117.

C. Hollow Metal Doors:
   1. Exterior Doors: Provide weep-hole openings in bottom of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.
   2. Glazed Lites: Factory cut openings in the door.

D. Hollow Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
   1. Full Profile Welded Frames: Weld joints continuously; grind, fill, dress, and make smooth, flush, and not visible.
   2. Sidelight and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as doorframe. Fasten members at crossings and to jambs by butt welding.
   3. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
   4. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
   5. Jamb Anchors: Provide number and spacing of anchors as follows:
      a. Post Installed Expansion Type: Locate anchors not more than six inches (6”) from top and bottom of frame. Space anchors not more than twenty-six inches (26”) on-center.

E. Fabricate concealed stiffeners, edge channels, and hardware reinforcement from either cold- or hot-rolled steel sheet.

F. Hardware Preparation: Factory prepare hollow metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping.
   1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8.
   2. Reinforce doors and frames to receive non-templated, mortised and surface-mounted door hardware.
   3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.

G. Stops and Moldings: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted or mitered hairline joints.
   1. Single Glazed Lites: Provide fixed stops and moldings welded on secure side of hollow metal work.
   2. Multiple Glazed Lites: Provide fixed and removable stops and moldings, so that each glazed lite is capable of being removed independently.
   3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames.
   4. Provide loose stops and moldings on inside of hollow metal work.
   5. Coordinate rabbet width between fixed and removable stops with type of glazing and type of installation indicated.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Prior to installation of any hardware, examine all door, frame, wall and related items for conditions that would prevent proper installation of finish hardware. Correct all defects prior to proceeding with installation.

B. All doors and hardware shall meet all requirements of state, local and federal requirements.

C. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.

B. Prior to installation, adjust and securely brace welded hollow metal frames for squareness, alignment, twist, and plumbness to the following tolerances:

1. Squareness: Plus or minus one-sixteenth of an inch (+/- 1/16”), measured at door rabbet on a line ninety degrees (90º) from jamb perpendicular to frame head.
2. Alignment: Plus or minus one-sixteenth of an inch (+/- 1/16”), measured at jambs on a horizontal line parallel to plane of wall.
3. Twist: Plus or minus one-sixteenth of an inch (+/- 1/16”), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
4. Plumbness: Plus or minus one-sixteenth of an inch (+/- 1/16”), measured at jambs on a perpendicular line from head to floor.

C. Drill and tap doors and frames to receive non-templated, mortised, and surface-mounted door hardware.

3.3 DOOR REMOVAL

A. Remove existing sealants, doors, frames, closers, and associated hardware from the existing openings where shown on the contract drawings. Remove doors carefully so as to prevent damage to the interior and exterior components that are to remain.

3.4 SHOP APPLIED PRIMER

A. All Metal work shall be hot-dip galvanized in accordance with ASTM A-525 and shall receive a passivating process equal to Bonderizing, Granodizing or Duncanizing prior to finishing.

B. All metal work shall receive one shop coat of primer.

3.5 INSTALLATION

A. General: Install hollow metal work plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.

B. Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSI/SDI A250.11.

1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
   a. At fire-protection-rated openings, install frames according to NFPA 80.
   b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
   c. Install frames with removable glazing stops located on secure side of opening.
   d. Install door silencers in frames.
   e. Remove temporary braces necessary for installation only after frames have been properly set and secured.

f. Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.

2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with post installed expansion anchors.
3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation behind frames.
4. Installation Tolerances: Adjust hollow metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
   a. Squareness: Plus, or minus one-sixteenth of an inch (+/- 1/16”), measured at door rabbet on a line ninety degrees (90º) from jamb perpendicular to frame head.
   b. Alignment: Plus, or minus one-sixteenth of an inch (+/- 1/16”), measured at jambs on a horizontal line parallel to plane of wall.
   c. Twist: Plus, or minus one-sixteenth of an inch (+/- 1/16”), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
   d. Plumbness: Plus, or minus one-sixteenth of an inch (+/- 1/16”) , measured at jambs at floor.

C. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.
   1. Top of Finish Floor (No Threshold): Maximum three-quarter inch (¾”).
   2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.
   3. Smoke-Control Doors: Install doors according to NFPA 105.

D. Glazing: Comply with hollow metal manufacturer's written instructions.
   1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than nine inches (9”) on-center and not more than two inches (2”) on-center from each corner.

3.6 DOOR FRAME INSTALLATION

A. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing aluminum framed storefront system, accessories, and other components.

B. Install aluminum door frame level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.

C. Set shims such that they do not interfere with required perimeter sealant joint depth, backer rod or sealant installation.

D. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

3.7 DOOR INSTALLATION

A. Install door(s) to comply with manufacturer's instructions, applicable to requirements of referenced quality standard, and as indicated.

B. Align and fit door in frame with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted with fire rated doors. Machine door for hardware. Seal cut surfaces after fitting and machining.

C. Provide one-eighth inch (⅛") at jambs and heads, and one-eighth inch (⅛") from bottom of door to top of the floor finish or covering. Where threshold is shown or scheduled, provide one-quarter inch (¼") clearance from bottom of door to top of threshold.

3.8 INSTALLATION OF FINISHED HARDWARE

A. All necessary templates and approved schedules required to fabricate doors, frames and hardware shall be furnished in sufficient time so as not to impede the progress of work.

B. All hardware will be installed by qualified tradesmen, skilled in the application of commercial grade hardware. For technical assistance if necessary, installers may contact the manufacturer’s representative for the item in question, as listed in the hardware schedule.

C. Mount hardware units at heights indicated in “Recommended Locations for Builders Hardware for Standard Steel Doors and Frames” by the Door and Hardware Institute and as required by American with Disabilities Act.

D. Install each hardware item in compliance with the manufacturer’s instructions and recommendations, using only the fasteners provided by the manufacturer.

E. Do not install surface mounted items until finishes have been completed on the substrate. Protect all installed hardware during painting.

F. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

G. All operating parts shall move freely and smoothly without binding, sticking or excessive clearance.

H. Lock fronts, flush bolt faces, and strikes shall be beveled, rounded, or rabbeted as required by the contract drawings. The Contractor shall determine and be responsible for the hand and bevel of all doors.

I. Provide for the proper protection of all items of hardware until the Owner accepts the project as complete. Faulty operating, damaged or disfigured hardware shall be replaced by the manufacturer at no additional cost to the Owner.

J. Cut frame and weld closure plates as required to install new hardware and to cover openings in frame from removed hardware components. Grind welds smooth.

K. The manufacturer's representative for closers shall inspect all closers for proper attachment and correct tension.

3.9 ADJUSTING, CLEANING AND DEMONSTRATING

A. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.

B. Clean adjacent surfaces soiled by hardware installation.

C. Instruct Owner's personnel in the proper adjustment, lubrication, and maintenance of door hardware and hardware finishes.

D. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

E. Metallic-Coated Surfaces: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

F. Refinish or replace doors damaged during installation.

G. Re-hang or replace doors that do not swing or operate freely.

3.10 FIELD QUALITY CONTROL

A. Approximately six months (6 mos.) after the date of Substantial Completion, the installer, accompanied by representatives of the manufacturer's latch sets and locksets, door control devices and of other major hardware suppliers, shall return to the Project to perform the following work:
   1. Examine and re-adjust each item of door hardware as necessary to restore function of doors and hardware to comply with specified requirements.
   2. Consult with and instruct Owner's personnel in recommended additions to the maintenance procedures.
   3. Replace hardware items that have deteriorated or failed due to faulty design, materials, or installation of hardware units.

END OF SECTION

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GLAZING AND GLAZING

SECTION 08 80 00

PART 1 - GENERAL

1.1 IN GENERAL

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

B. Examine all Drawings and all Sections of the Specifications for requirements and provisions affecting the Work of this Section.

C. Coordinate work with that of all other trades impacting or impacted by work of this Section. Cooperate with such trades to ensure the steady progress of all work under the Contract.

1.2 SCOPE OF WORK

A. In general, the Contractor shall supply all labor, equipment, temporary protection, tools, and appliances necessary for the proper completion of the work as required in the Specifications, in accordance with good roofing practice, and as required by the materials manufacturer, as amended. The work under this Section generally includes the following:

B. Remote and dispose existing broken glass in existing steel windows, including existing glazing putty and steel sash clips at locations indicated on the Contract Drawings.

C. Provide replacement glass in existing steel windows with new historic replicating glass, including new glazing putty and steel sash clips

D. Provide insulating glass vision lite for new hollow metal roof access door at the location indicated on the Contract Drawings. The vision lite shall be factory installed.

1.3 RELATED WORK SPECIFIED ELSEWHERE

A. Section 01 23 00 - Alternates
B. Section 08 11 10 - Hollow Doors and Frames

1.4 UNIT PRICES

A. Technical requirements for related Unit Price work are defined in this section. Refer to the Bid Form for quantities to be carried in the Unit Price Items.

B. Alternates

C. Technical requirements for related Alternate work are defined in this section. Refer to Division 01 Section “Alternates” for scope to be carried in the Alternate and provided on the Bid Form.

1.5 SUBMITTALS

A. Refer to Section 01 33 00 - Submittal Procedures for additional information.

B. Provide a project specific safety plan and job hazard analysis.

C. Product Data: For each type of product indicated. Include recommendations for application and use. Include test data substantiating that products comply with requirements

D. Samples for Verification; submit samples of the following:
   1. One (1) insulating glass unit sample for door vision lite.
   2. Three (3) historic replicated glass samples.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing materials according to manufacturer's written instructions and as needed to prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

B. For insulating-glass units that will be exposed to substantial altitude changes, comply with insulating-glass manufacturer's written recommendations for venting and sealing to avoid hermetic seal ruptures.

1.7 SPECIAL JOB CONDITIONS

A. The building occupants are highly sensitive to fumes, odors, noise, and disturbances. The Contractor shall submit a detailed sequence schedule for the roof area prior to the start of work and shall coordinate daily schedules with the Owner.

1.8 JOB CONDITIONS

A. The Contractor shall supply, install and maintain all shoring, supports, barriers, protection, temporary heat, warning lines, lighting and personnel required to support the structure, fixtures and facilities affected by his work and segregate the work area(s) from pedestrian or vehicular traffic, as well as to prevent damage to the building, occupants and the surrounding landscaped and paved areas.

1.9 PERFORMANCE REQUIREMENTS

A. General: Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

B. Thermal Movements: Provide glazing that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures acting on glass framing members and glazing components. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
   1. Temperature Change (Range): One hundred twenty degrees Fahrenheit (120ºF), ambient; one hundred eighty degrees Fahrenheit (180ºF), material surfaces.

C. Thermal and Optical Performance Properties: Provide glass with performance properties specified based on manufacturer's published test data, as determined according to procedures indicated below:
   1. For insulating-glass units, properties are based on units of thickness indicated for overall unit and for each lite one-quarter inch thick (¼” THK) and a nominal one-half inch wide (½” W) interspace.
      a. U-Factors: NFRC 100 expressed as Btu/ sq. ft. x h x deg F.
      b. Solar Heat Gain Coefficient: NFRC 200.
      c. Solar Optical Properties: NFRC 300.

1.10 SUBMITTALS

A. Product Data: For each glass product and glazing material indicated.

B. Samples: Twelve-inch (12“) square, for each type of glass product indicated.
C. For Historic Glass, provide three (3) samples of different glass patterns.

D. Glazing Schedule: Use same designations indicated on Drawings.

E. Pre-Construction Adhesion and Compatibility Test Report: From glazing sealant manufacturer.

1.11 QUALITY ASSURANCE

A. Pre-Construction Adhesion and Compatibility Testing: Submit to elastomeric glazing sealant manufacturers, for testing according to ASTM C1087, samples of each glazing material type, tape sealant, gasket, glazing accessory, and glass-framing member that will contact or affect elastomeric glazing sealants.

B. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.
   1. SIGMA Publication for Insulating Glass: SIGMA TM-3000, "Glazing Guidelines for Sealed Insulating Glass Units."

C. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of the Insulating Glass Certification Council.

D. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

E. Build mockups for historic glass replacement, a minimum of three (3) locations as determined by Architect in the field.

F. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.12 WARRANTY

A. Manufacturer’s Warranty: Submit, for Owner’s acceptance, manufacturer’s standard warranty document executed by authorized company official.

B. Manufacturer's Special Warranty on Insulating Glass: Manufacturer's standard form, made out to Owner and signed by insulating-glass manufacturer agreeing to replace insulating-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.

C. Warranty Period: Ten years (10 yrs.) from date of Substantial Completion.

D. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer's standard form, made out to Owner and signed by coated-glass manufacturer agreeing to replace coated-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.

E. Warranty Period: Ten years (10 yrs.) from date of Substantial Completion.

F. See Division 01 Section “Summary of Work” for contractor’s warranty.

PART 2 - PRODUCTS

2.1 HISTORIC REPLICATING REPLACEMENT GLASS

A. Historic replicating replacement glass shall be 5/32” in thick, single pane.

B. Pattern glass shall be “Artic” as manufactured by Hollander Specialty Glass or Approved Equal.

C. Other glass patterns are to be considered for matching existing glass.

D. Glass shall be Kind FT (fully tempered) glass lite. Tempered glass for use at safety glazing shall be one-quarter inch thick (¼” THK) conforming to the quality and strength requirements of ASTM Specification C1048 (kind FT). Tempered glass shall also conform to ANSI Z97.1 Specifications.

2.2 HISTORIC GLASS ACCESSORIRES

A. Glazing Sash Clips: Clips shall be commercial heavyweight steel 16.5 gauge, .056 wire diameter by C.R. Laurence (CRL) Company, Inc. or Approved Equal.

B. Glazing Putty: Putty shall be gray colored Metal Sash Putty C.R. Laurence (CRL) Company, Inc. or Approved Equal.

2.3 GLASS FOR DOOR VISION LITE

A. Vision lite shall be factory glazed with insulated glass unit (IGU).

B. Provide Kind FT (fully tempered) glass lite. Tempered glass for use at safety glazing shall be one-quarter inch thick (¼” THK) conforming to the quality and strength requirements of ASTM Specification C1048 (kind FT). Tempered glass shall also conform to ANSI Z97.1 Specifications.

C. Glass shall be manufactured by Oldcastle, Vitro Architectural Glass, Guardian or approved equal.

D. Insulated glass units shall be comprised of the specified glass for a total thickness of one-inch (1"). Insulated glass units shall be hermetically sealed and shall be IGCC-CBA rated and certified. IGCC number shall appear on the spacer of the insulated glass unit. All insulated glass units shall conform to ASTM E774-88 Class CBA Specifications.
1. Exterior Lite: 6mm (one-quarter inch [¼”]) Vitro Solarban 60 Clear Low-E #2.
2. Cavity: One-half inch (½”) Mix Air Space (90% Argon, 10% Air Fill).
3. Interior Lite: 6mm (one-quarter inch [¼”]) Vitro Clear.
4. Spacer: Spacer shall be constructed of a non-thermal bridging material.
5. Thermal Performance:
    a. Winter U-factor (Btu/h·ft2·F): 0.24
    b. Summer U-factor (Btu/h·ft2·F): 0.22
    c. Solar Heat Gain Coefficient: 0.39
    d. Shading Coefficient: 0.44
    e. Light to Solar Gain: 1.79
    f. Visible Light Transmittance: Seventy percent (70%)
    g. Solar Transmittance: Thirty-four percent (34%)
    h. Solar Reflectance (outside): Twenty-eight percent (28%)
    i. Exterior Visible Reflectance: Eleven percent (11%)
    j. Interior Visible Reflectance: Twelve percent (12%)
    k. Shading Coefficient: 0.44
6. Primary Seal: Compressed polyisobutylene
7. Secondary Seal: Silicone
8. Insulated glass units shall be edge deleted at PIB seal.

2.4 GLAZING BASKETS

A. Dense Compression Gaskets: Molded or extruded gaskets of material indicated below, complying with standards referenced with name of elastomer indicated below, and of profile and hardness required to maintain watertight seal:
   1. Neoprene, ASTM C 864.
   2. EPDM, ASTM C 864.
   3. Silicone, ASTM C 1115.
   4. Thermoplastic polyolefin rubber, ASTM C 1115.

B. Soft Compression Gaskets: Extruded or molded, closed-cell, integral-skinned gaskets of material indicated below; complying with ASTM C 509, Type II, black; and of profile and hardness required to maintain watertight seal:
   1. Neoprene.
   2. EPDM.
   3. Silicone.
   4. Thermoplastic polyolefin rubber.

2.5 MISCELLANEOUS GLAZING MATERIALS

A. General: Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

C. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of eighty-five (85), plus or minus five (+/- 5).

D. Spacers: Elastomeric blocks or continuous extrusions with a Shore, Type A durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.

E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

F. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

2.6 FABRICATION OF GLAZING UNITS

A. Fabricate glazing units in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.

PART 3 - EXECUTION

3.1 GLAZING

A. General: Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

1. Glazing channel dimensions, as indicated on Drawings, provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by Project conditions during installation.
2. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.
3. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant-substrate testing.
4. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
5. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
6. Provide spacers for glass lites where length plus width is larger than fifty inches (> 50").
7. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

B. Gasket Glazing (Dry): Fabricate compression gaskets in lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.

C. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.

D. Center glass lites in openings on setting blocks and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

E. Install gaskets so they protrude past face of glazing stops.

3.2 CLEANING AND PROTECTION

A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels, and clean surfaces. Protect glass from contact with contaminating substances resulting from construction operations, including weld splatter. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended by glass manufacturer.

B. Remove and replace glass that is broken, chipped, cracked, or abraded or that is damaged from natural causes, accidents, and vandalism, during construction period.

END OF SECTION

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PAINTING

SECTION 09 91 00

PART 1 – GENERAL

1.1 IN GENERAL

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

B. Examine all other Sections of the Specifications for requirements that impact work of this Section whether or not such work is specially mentioned in this Section.

C. Coordinate work with that of all other trades impacting or impacted by work of this Section. Cooperate with such trades to ensure the steady progress of all work under the Contract.

1.2 SCOPE OF WORK

A. In general, the Contractor shall supply all labor, equipment, temporary protection, tools, and appliances necessary for the proper completion of the work as required in the Specifications, in accordance with good roofing practice, and as required by the materials manufacturer, as amended. The work under this Section generally includes the following:
   1. Prepare, prime, and paint exterior and interior surfaces of new roof access hollow metal door and frame.
   2. Removal of existing masonry coating for repairs to cast stone elements and application of new masonry coating to the repaired cast stone elements to match existing coated surfaces.

1.3 RELATED WORK SPECIFIED ELSEWHERE

A. Section 04 01 20 - Masonry Restoration and Cleaning
B. Section 08 11 10 - Metal Doors and Frames

1.4 SUBMITTALS

A. Provide a project specific safety plan and job hazard analysis.

B. Product Data: For each type of product indicated. Include recommendations for application and use. Include test data substantiating that products comply with requirements.

C. Samples for Verification: Before erecting mockup, submit samples of the following:
   1. Painting of Hollow Metal Door and Frame.

D. Manufacturer’s Instructions:
   1. Paint application instructions.
   2. Paint color charts for Owner’s selection of color.
   3. Material Safety Data Sheets (MSDS).

E. Schedule for Paint Application.

F. Applicators Qualifications consisting of evidence showing satisfactory application of proposed paint at a minimum of two (2) sites. Give names and contacts at sites.

1.5 SPECIAL JOB CONDITIONS

A. The building occupants are highly sensitive to fumes, odors, noise, and disturbances. The Contractor shall submit a detailed sequence schedule for the roof area prior to the start of work and shall coordinate daily schedules with the Owner.

B. Coating products shall not contain:
   1. Asbestos
   2. Zinc chromate
   3. Strontium chromate
   4. or Lead.

C. Anticipate use of two (2) color schemes for doors and frames. Color to be selected by Owner.

D. Building will be occupied and in use during construction. Contractor shall take all precautions necessary to protect persons and property. Scheduling of work shall be coordinated with Owner’s representative.

E. Provide all necessary temporary protection and barriers to segregate work area and prevent damage to adjacent areas.

F. Paints shall be delivered in sealed containers that legibly show designated name, formula or specification number, batch number, color, quantity, date of manufacture, manufacturer’s formulation number, manufacturer’s directions including any warnings and special precautions, and name of manufacturer.

G. Paints and thinner shall be stored in accordance with manufacturer’s written directions and as a minimum stored off ground, under cover, with sufficient ventilation to prevent build-up of flammable vapors and at temperatures between forty- and ninety-five degrees Fahrenheit (40ºF - 95ºF).

H. Unless otherwise recommended by paint manufacturer, ambient temperature shall be between forty-five and ninety-five degrees Fahrenheit (45ºF - 95ºF) when applying coatings.

1.6 JOB CONDITIONS

A. The Contractor shall supply, install and maintain all shoring, supports, barriers, protection, temporary heat, warning lines, lighting and personnel required to support the structure, fixtures and facilities affected by his work and segregate the work area(s) from pedestrian or vehicular traffic, as well as to prevent damage to the building, occupants and the surrounding landscaped and paved areas.

B. Schedule and execute all work without exposing the interior building areas to inclement weather. Protect the existing building and its contents against all risks, and repair or replace all damage to the Owner's satisfaction.

C. Coordinate the work in this section with the work by other trades to ensure the orderly progress of the work.

D. Under no circumstances shall the Contractor remove existing materials and systems to the ground in an uncontrolled manner. Machinery or devices used shall be manufactured for this purpose. Adjacent building and property areas shall be protected from airborne debris.

E. During removal operations, the Contractor is responsible for the containment of all dust, dirt, debris, overspray, and run-off resulting from the work. The Contractor shall collect and contain all materials and repair any resulting damage to adjacent surfaces, site fixtures or personal property. Specific attention is drawn to the use of chemicals and cleaners.

F. Fully charged, inspected, and approved fire extinguishers shall be on site at all times. No cutting, grinding, or welding of any kind shall proceed without an approved, fully charged fire extinguisher.

G. The Contractor shall utilize skilled and experienced specialty workers to install all aspects of the work.

1.7 WARRANTY

A. See Division 01 Section “Summary of Work” for contractor’s warranty requirements.

PART 2 – PRODUCTS

2.1 PAINT, GENERAL

A. Material Compatibility:
   1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.

2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

2.2 PRIMER AND PAINT

A. Primer for metal decking and exterior doors and frames MPI #107: Rust-inhibitive industrial enamel primer by Sherwin Williams or Approved Equal. Primer shall be lead and chromate-free.

B. Paint:
   1. For exterior doors and frames MPI #94 (semigloss) enamel by Sherwin Williams or Approved Equal.

C. Colors shall be as selected by Owner from manufacturer's standard colors, as indicated. Color of undercoats shall vary slightly from color of next coat.

D. Paints containing lead in excess of 0.06 percent (0.06%) by weight of total nonvolatile content (calculated as lead metal) shall not be used.

E. Paints shall comply with applicable state and local laws enacted to ensure compliance with Federal Clean Air Standards and shall conform to restrictions of local air pollution control authority.

2.3 MASONRY COATING REMOVAL

A. Subject to approval through trial testing of masonry surface coating removal, provide the following masonry coating removal product or equivalents by other manufacturers:
   1. The masonry coating removal product shall be Enviro Kelan SafStrip, a neutral-PH stripping compound by Prosecco or Approved Equal.
   2. Subject to further Engineer review, advance approval and in-place testing, other masonry coating removal products may be considered for areas not cleaned satisfactorily with Enviro Kelan SafStrip product.

2.4 CAST STONE MASONRY COATING

A. Subject to approval through trial testing of masonry surface, provide the following masonry coating for repaired cast stone elements or equivalents by other manufacturers:
   1. The coating for repaired cast stone elements shall be M3P, inorganic mineral silicate opaque by Conproco or Approved Equal.
   2. Dilution of coating may be required to match the aesthetics of the existing cast stone coating with M3P-X by Conproco or as recommended by the Approved coating product manufacturer.

2.5 ACCESSORIES

A. Paint application shall be performed by brush or roller only. No spraying shall be permitted unless approved in advance by Owner.

B. Masking tapes, sheets, and sealants shall be compatible with materials they are applied to and shall not leave stains on adjacent surfaces.

2.6 PAINT SCHEDULE

A. New exterior roof access door and frame:
   1. Primer:
      a. Number of Coats: One (1), dry film thickness, 1.7 mils per coat.
   2. Paint:
      a. Number of Coats: Two (2), dry film thickness, 1.3 mils per coat.

PART 3 – EXECUTION

3.1 GENERAL

A. Prior to surface preparation and coating applications, remove mask or otherwise protect all adjacent surfaces. Repair or replace items damaged in course of painting to Owner's satisfaction.

B. Before applying succeeding coats, undercoats shall be completely integral and shall perform function for which they are specified. Properly prepare and touch up all scratches, abrasions or other disfigurements and remove any foreign matter before proceeding with following coat. All spot-priming or painting shall be featheredged into adjacent areas to produce smooth monolithic appearance.

C. Post "Wet Paint" signs as required.

3.2 PREPARATION

A. Clean all surfaces to be painted as required to remove dust and dirt, and oil films. Sand as necessary to properly prepare surfaces to receive primer and paint.

B. Wipe off dust and grit from properly prepared surfaces prior to applying primer.

C. Remove dirt, scale, loose coatings and particles, grease, oil, disintegrated coatings, and other substances deleterious to coating performance for component substrates in accordance with SSPC SP-1, Power Tool Cleaning, to remove rust and loose coatings as well as to remove glossy surfaces of existing paint films.

D. Ferrous Surfaces: Ferrous surfaces including those that have been shop-coated, shall be solvent-cleaned. Surfaces that contain loose rust, loose mill scale, and other foreign substances shall be cleaned mechanically with hand tools according to SSPC SP 2, power tools according to SSPC SP 3. Shop-coated ferrous surfaces shall be protected from corrosion by treating and touching up corroded areas immediately upon detection.

E. Previously Painted Surfaces: Previously painted surfaces specified to be repainted or damaged during construction shall be thoroughly cleaned of all grease, dirt, dust or other foreign matter. Blistering, cracking, flaking and peeling or other deteriorated coatings shall be removed. Slick surfaces shall be roughened. Damaged areas such as, but not limited to, nail holes, cracks, chips, and spalls shall be repaired with suitable material to match adjacent undamaged areas. Edges of chipped paint shall be feather edged and sanded smooth. Rusty metal surfaces shall be cleaned as per SSPC requirements. Solvent, mechanical, or chemical cleaning methods shall be used to provide surfaces suitable for painting. New, proposed coatings shall be compatible with existing coatings. If existing surfaces are glossy, gloss shall be reduced.

3.3 PAINT APPLICATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.

B. Apply products in accordance with manufacturer’s instructions. Rate of application of coating shall be as specified but shall not exceed that as recommended by paint manufacturer for purpose of surface involved.

C. Allow sufficient drying time between coats as recommended by coating manufacturer.

D. Lightly sand and dust between each coat to remove defects visible from 5-feet. Finish coats shall be smooth, free from brush marks, streaks, laps, sags, skips, holidays, etc.

E. Do not apply additional coats until previously installed coat has been reviewed and accepted by Owner. Only accepted coats of paint will be considered in determining number of coats applied.

F. Refinish entire sections if areas which have been previously repaired are rejected.

3.4 MASONRY COATING REMOVAL

A. Coordinate coating removal with all cast stone masonry work.

B. Do not let stripper dry on the surface. If tests indicate long dwell times, reapply to keep the previously applied material wet. Keep people away from the stripper.

C. Application:
1. Apply product one-eighth inch to one-quarter inch thick (⅛” - ¼” THK) to dry surface.

2. Let the application dwell fifteen- to sixty minutes (15-60 mins.) or until coating "lifts" or shows signs of dissolving. Periodic agitation with a stiff bristle brush improves penetration. Some coatings will need multiple applications/ increased dwell time.
3. Remove stripper and residue with pressure-water rinse. Heated water may improve stripping efficiency.
4. If additional cleaning is required, clean the stripped surface with products as recommended by the approved manufacturer.

3.5 MASONRY COATING

A. Examination:
1. Installation shall be performed strictly in accordance with the manufacturer's current product data bulletin.
2. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected.
3. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas and landscaping from contact due to mixing, handling, and application of materials.

B. Surface Preparation:
1. Prior to application of products, inspect the substrate for proper cleaning and treatment of structural cracks, texture differences, damage, etc. Work shall not proceed until unsatisfactory conditions are corrected.
2. All substrates must be sound and free from loose debris, oils, paints, sealers, form treatments or any substances that would interfere with proper penetration.
3. Typical preparation method is high pressure water blasting. Chemical cleaners may be used to remove stains and surface contaminants. If chemical cleaners are used, the surface must be neutralized prior to application of coating.
4. Allow surface to dry completely. New concrete must be cured 7 days before application. A dry surface is necessary to allow maximum penetration.
5. Adjacent surfaces should be protected from spatter or over spray (use masking tape and polyethylene film).

C. Application:
1. Priming:
   a. Apply self-priming two-coat system.
2. Mixing:
   a. Mix until homogeneous. Do not use high-speed mixers or over mix as this will entrain excess air.
3. Application:
   a. Apply coating with roller, brush or spray. Spray applications must be back rolled while wet.
   b. Do not cut in. Work to pre-determined break points in the structure.
   c. Maintain a wet edge while working to each architectural break point.
   d. The second (2^{nd}) coat should be applied as soon as the first (1^{st}) application is dry to touch.

e. A test application shall be applied to determine coverage and final appearance.

f. Protect all surfaces against wet or damp weather conditions for at least twenty-four hours (24 hrs.) after application.

g. Add approved dilution to coating only if required to match the existing aesthetics as reviewed and accepted by the Architect, Owner and Manufacturer.

3.6 CLEANING

A. Repair brush marks, scratches, abrasions, and minor surface defects in coatings finish in accordance with manufacturer’s printed instructions. Finish of repaired surfaces shall be uniform and free from blemishes and variations in color and surface texture.

END OF SECTION

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PLUMBING

SECTION 22 30 00

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. The General Conditions, and all parts of the Bid and Contract Documents are made part of this Section as if fully repeated herein.

B. Refer to Division 01 for additional information.

1.2 SCOPE OF WORK

A. In general, the Contractor shall supply all labor, materials, equipment, temporary protection, tools, and appliances necessary for the proper completion of the work in this Section, as required in the Specifications and in accordance with good construction practice and as required by the material manufacturer, as amended. The work under this Section generally includes the following:

1. Clear roof drain systems from roof level to the point where the leaders exit the building to achieve a free-flowing system prior to re-roofing operations and after new roof system is installed. Water test roof drains, pipe connections, and flashings prior to demobilization.
2. Removal of existing roof drain bowls and aluminum drain inserts.
3. Install new drain bowl assemblies, including bowls, strainers, clamping rings, underdeck clamps, and lead and oakum joints at all existing roof drain locations. Provide vandal-proof drain strainers. Elevate drain assemblies a minimum of two inches (2”) above the deck to allow for insulation.
4. Install new vertical and horizontal leader piping at augmenting roof drain.
5. Install drain marker flags at all drain locations.
6. Provide all temporary protection, tools and equipment necessary to remove and replace the existing drains and leaders as specified for the proper installation of the new roof drains.
7. Install vent pipe extensions with no-hub connections.
8. Replace, patch, seal, and repair all existing construction assemblies removed, damaged, or cut to allow for the installation of the new drain bowl assemblies such as suspended or plaster ceilings. Repaired areas shall match the surrounding existing construction.
9. All drains installed shall be completed and flashed in the same day’s operation.
10. This project includes alternates. Refer to Section 01 23 00 - Alternates for additional information.

1.3 RELATED WORK SPECIFIED ELSEWHERE

A. Section 07 53 00 - Elastomeric Roofing and Flashing

1.4 JOB CONDITIONS

A. The plumbing work shall be coordinated with the roofing contractor and the roof work in such a manner that drain bowl assemblies are installed prior to or concurrently with the roofing. Limit the number of drains removed and replaced prior to roof replacement to avoid moisture infiltration at drain locations.

B. No interior portions of the building shall be left exposed to the elements at the end of a day's work. The roofing contractor shall provide temporary drain flashings prior to roof replacement where drains are replaced.

C. All plumbing work shall be performed by a licensed plumber in accordance with the Maine State Internal Plumbing Code.

D. Notify the Engineer forty-eight hours (48 hrs.) in advance of drain leader cleaning operations in order that Owner representation may occur.

E. Notify Owner seventy-two hours (72 hrs.) in advance to acquire Owner's written permission to access interior spaces of the building.

1.5 SUBMITTALS

A. Manufacturer's literature shall be submitted for all items specified in Part 2 of this Section.

PART 2 - PRODUCTS

2.1 ROOF DRAIN COMPONENTS

A. Replacement roof drains shall be minimum twelve-inch (12") diameter coated cast iron with varying pipe sizes, or as required to match the existing diameter bottom outlet, large sump, extended collar and wide roof flange, as manufactured by Jay R. Smith Manufacturing Co., Series 1010-E-W, Josam, Zurn, Wade, Smith or approved equal. Replacement drain outlet diameters shall match the existing. Drain assemblies shall have non-puncturing cast iron clamping ring with integral gravel stop. All roof drain assemblies shall be installed with underdeck clamps. Drain strainers shall be cast iron, vandal resistant, of suitable size and configuration as provided by the drain manufacturer.

B. All accessories necessary or the proper installation of the new drain bowl assemblies, including but not limited to underdeck clamps, clamping rings with integral gravel stops and strainers, shall be of the same manufacturer as the drain bowls and be completely compatible with the existing piping and surrounding materials. Drain sump caulking shall be as recommended by the supplier.

C. Drain bowl to leader pipe connections shall be pig lead and oakum. Verify in field all connections.

D. Elastomeric joint couplings to be used only at tie-ins from new to existing leader pipes shall conform to the Cast Iron Soil Pipe Institute (CISPI). Couplings shall be made using neoprene sleeves with stainless steel draw band clamp connections, four clamps per sleeve.

E. Insulation for new drain bowl assemblies and drain pipe shall be pre-formed and skinned fibrous glass, minimum one-inch thick (1” THK) of sufficient size to fit fixtures and piping, such as fiberglass ASJ/SSL-11 pipe insulation by OCF, with factory-applied jackets, or approved equal. Fittings shall be mitered of the same material. Joints shall be taped as recommended and supplied by the manufacturer of the insulation. Minimum R-value = 3.2 per inch thickness. Minimum thickness shall be two inches (2”).

2.2 <u>CONCRETE PATCHING COMPOUND</u>

A. Repair mortar for patching concrete at drain bowls shall be a polymer modified Portland cement-based patch mortar. Mortar shall be fast-setting, non-sag material such as Sika Top 123 as manufactured by the Sika Corporation, ThoRoc HB2 manufactured by ChemRex, Inc., Mimic by Conproco or approved equal.

2.3 <u>LEADER PIPING</u>

A. Augmenting and replacement leader pipe shall be Schedule 40-coated cast iron, three-inch (3”) diameter, conforming to ASTM A74 Specifications. Pipe and connections shall be sized to tie into the existing leader piping below drains.

B. All required hangers and fittings for cast iron pipe shall conform to Manufacturer’s Standardization Society of Valve and Fittings Industry (MCC) SP-58 and SP-59 guidelines. Hangers and strapping material shall be of approved material that will not promote galvanic reaction. Cast iron fittings shall conform to the American Society of Mechanical Engineers (ASME) B16.4 and B16.12.

C. Elastomeric joint couplings to be used only at tie-ins from new to existing leader pipes shall conform to the Cast Iron Soil Pipe Institute (CISPI). Couplings shall be made using neoprene sleeves with stainless steel draw band clamp connections, four clamps per sleeve.

2.4 <u>VENT PIPE EXTENSIONS</u>

A. <u>Vent pipe extensions</u>: Schedule 40-coated cast iron conforming to ASTM A74 sized to match existing pipe diameter. Pipes shall extend eighteen inches (18”) minimum above completed roof surface.

B. No-hub connections for vent pipe extensions shall consist of neoprene couplings with stainless steel clamps, sized to match the existing pipe diameter.

2.5 ROOF DRAIN MARKERS

A. Roof Drain Marker as manufactured by Roof Drain Marker Co., LLC, of West Bridgewater, MA as supplied by the approved drain bowl manufacturer, or approved equal. Drain dome-mounted vertical fiberglass flag marker secured in aluminum socket in turn secured with pre-punched aluminum bracket configured for through-bolting to roof drain dome, or approved equal.
1. Flag Marker: Pultruded fiber-reinforced polymer rod, one-half inch (½" [12 mm]) diameter by forty-eight inch (48" [1219 mm]) long, with reflective dual-colored reversible ends enabling marking of selected drains.
2. Flexural Strength, minimum, ASTM D790: 700,000 psi (689 MPa).
3. Impact Strength, minimum, ASTM D256: 40 ft-lb/in.
4. Marker Base: 1-inch by 1-inch by 4-inch (25 mm x 25 mm x 102 mm) extruded aluminum bar, ASTM B 209 (ASTM B 209M), with milled flag receiver, threaded flag set screw retainer, and threaded base.
5. Flag Bracket: 1-inch by 1-inch by 0.063-inch (25 mm x 25 mm x 1.60 mm) aluminum plate bracket, ASTM B 221 (ASTM B 221M).
6. Fasteners: Alloy Group 2 (A4) stainless-steel bolts, ASTM F593 (ASTM F738M), and nuts, ASTM F594 (ASTM F836M).

PART 3 - EXECUTION

3.1 GENERAL

A. The Owner shall be notified at least seventy-two hours (72 hrs.) prior to all under deck work. All materials, equipment and daily clean up shall be the responsibility of the Contractor.

B. All work in this Section shall be coordinated with roof replacement work. All required work at drain locations shall be properly protected at all times from equipment and traffic.

C. All flashing-in of the roof drains and membrane repairs as a result of the plumbing work shall be the responsibility of and provided by the Contractor under Section 07 53 00 - Elastomeric Roofing and Flashing.

D. The Contractor is cautioned to investigate all existing conditions and materials of construction. All replacement items, including but not limited to clamps and strainers must be completely compatible and match the existing system.

3.2 CLEANING OF DRAINAGE SYSTEM

A. Prior to re-roofing operations, clear all roof drain leader piping of any debris and clogs such that the system is free-flowing.

B. Once the new replacement roof system has been installed, clear all roof drain leader piping of debris and clogs such that the system is free-flowing.

C. The Contractor shall notify the Engineer and Owner a minimum of seventy-two hours (72 hrs.) in advance prior to cleaning drainage system, in order to allow the Engineer and Owner present during the cleaning operations.

D. The Contractor shall clear the existing leader pipe with Roto-rooter type equipment from the roof deck level to the point where the leader pipe exits the building. Flush the drain line with water upon completion of the cleaning.

3.3 REPLACEMENT ROOF DRAINS

A. Install all replacement roof drains such that the bowl flange with clamping ring and integral gravel guard elevated two inches (2”) above deck level. See detail drawings for assembly position.

B. Should it be required, complete all cuts through the existing deck so as to cause minimum damage to the deck and associated building components. Cut shall be the minimum size possible. Methods of deck removal shall be submitted by the Contractor and approved by the Engineer prior to demolition. The Contractor shall provide all interior and rooftop protection.

C. Make all drain to leader connections watertight and of sufficient strength.
1. Lead and oakum joints: Pack joint tightly with oakum of sufficient size to remain firmly in place.
2. Mechanical joint couplings shall be installed in accordance with the manufacturer’s instructions.
3. Tamp joint tight as required.

D. Check all roof drain and leader pipe joints with a water test once roofing and flashing are complete and prior to installing drain system insulation to check for leaks. Repair all leaks to the satisfaction of the Owner.

3.4 CONCRETE PATCHING COMPUND INSTALLATION

A. Remove areas of spalled, cracked, loose or otherwise unsuitable concrete from the existing roof deck. Define all repair areas with one-quarter inch (¼”) deep saw cut. Undercut or “key” in spall repair edges on at least two opposite sides to mechanically retain the repair. Cuts shall not overlap at corners.

B. Completely remove all dust, grease and other impurities via compressed air and wire brushes, chipping, grinding or other methods as required to achieve an acceptable bonding surfaces.

C. Prepare the surface of the existing concrete to receive the repair mortar. Dampen the existing surface area with clean potable water. Provide a one-eighth inch (⅛”) minimum aggressive surface profile with fractured aggregate. Tool marks should be visible.

D. Apply primer to all bonding surfaces as recommended by the repair mortar manufacturer.

E. Install repair mortar to properly prepared areas. Mix repair mortar in accordance with the materials manufacturer's instructions. At spall repairs with a depth greater than one-inch (> 1"), mix in three-eighths inch (⅜") aggregate as required by the mortar manufacturer. Utilize the manufacturer's recommended mix rates. **Do not apply spall repair material over corroded reinforcing.**

F. The concrete substrates may require wetting with water prior to installing the repair mortar. Consult with the manufacturer's instructions prior to initiating repairs.

G. Finish the repairs flush with the existing roof surface. Fast setting concrete repair materials shall cure for a minimum of two hours (2 hrs.) prior to the installation of the new roof materials, or as recommended by the materials submitted.

H. The Contractor will be required to provide all temporary protection of the new and existing concrete roof system that will require curing during the installation process. Any damage as a result of improper protection, or the installation of the new roof system prior to the proper cure duration, shall be repaired or replaced at no additional cost to the Owner.

3.5 INSULATION

A. Replacement Drains: Fibrous glass pipe insulation with factory-applied jackets shall be installed on all drain bowl assemblies and leader ties installed under this Contract, in accordance with the manufacturer's written specifications. New pipe insulation shall extend twenty-four inches (24") minimum vertically, or twelve inches (12") beyond the first (1^{st}) elbow direction, whichever is greater.

B. All insulation joints shall be taped with materials recommended and supplied by the insulation manufacturer.

C. Drain bowl insulation shall be cut clean and matched to the pipe insulation, with all joints properly taped, mitered and sealed.

D. If any sections of the existing roof drainage system are observed to be uninsulated, this situation shall be reported to the Engineer and Owner.

3.6 CEILING REMOVAL AND REPLACEMENT

A. The Contractor shall not remove any ceiling areas without the prior approval of the Engineer and Owner. The limits of ceiling removal to facilitate installation of the new plumbing work shall be clearly defined. All precautions shall be taken to protect the building occupants during ceiling removal and replacement.

B. The Contractor shall provide all tarps, zip walls, and protection necessary to protect the interior portions of the building.

C. All ceiling sections removed shall be replaced by the Contractor. Any areas damaged during construction or removal and replacement shall be replaced by the Contractor at no extra cost to the Owner.

D. Do not damage or cut any of the ceiling support system without the Engineer's and Owner's approval. Should the support system be damaged or removed to facilitate plumbing work installation, it shall be replaced with a new support system equal to the existing.

E. All floor and adjacent areas, both interior and exterior, damaged or stained by the installation of the plumbing work shall be repaired and cleaned of all dust, debris and any other materials to the Owner's satisfaction.

3.7 VENT PIPE EXTENSION

A. Cut existing vent pipes to be raised to allow for the installation of the no-hub connections. Units shall extend eighteen inches (18”) above finished roof surface.

3.8 CLEANUP

A. All floor and adjacent areas, both interior and exterior, damaged or stained by the installation of the plumbing work shall be repaired and cleaned of all dust, debris and any other materials to the Owner's satisfaction.

3.9 WATER TESTS

A. Perform water tests on roof drain assemblies, including leader piping, and on downspout assemblies. Notify the Owner forty-eight hours (48 hrs.) minimum prior to water tests in order that the Owner/Owner’s representative may witness testing. Using a three-quarter inch (¾”) garden hose run water into the drainage components for thirty minutes. Inspect all drainage components for leakage and repair as required. Inform Owner of test findings.

END OF SECTION

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