ROOF REPLACEMENT AND ASSOCIATED WORK
AT THE CENTER BUILDING
67 INDEPENDENCE DRIVE
AUGUSTA, MAINE

February 29, 2024

Prepared For:

State of Maine Bureau of General Services
111 Sewall Street
77 State House Station
Augusta, ME 04333

Prepared By:

Gale Associates, Inc.
5 Moulton Street
Portland, ME 04101
Gale JN 839100

ROOF REPLACEMENT AND ASSOCIATED WORK
AT THE CENTER BUILDING
67 INDEPENDENCE DRIVE
AUGUSTA, MAINE

THIS PAGE IS INTENTIONALLY LEFT BLANK.

ROOF REPLACEMENT AND ASSOCIATED WORK
AT THE CENTER BUILDING
67 INDEPENDENCE DRIVE
AUGUSTA, MAINE

GALE JN 839100
TABLE OF CONTENTS

ROOF REPLACEMENT AND ASSOCIATED WORK
AT THE CENTER BUILDING
67 INDEPENDENCE DRIVE
AUGUSTA, MAINE

CONTRACT DRAWINGS

00 11 13
Notice to Contractors

Roof Replacement and Associated Work at the Center Building BGS#3381

Roof Replacement of low slope roof systems and repairs to steep slope slate roofing systems at the Center Building.

Please note requestes for information associated with the project are due by 5:00 PM on March 26, 2024. Respones to requests for information will be provided via addendum by 5:00 PM on April 2, 2024.

The cost of the work is approximately $ 0. The contract shall designate the Substantial Completion Date on or before *October 28, 2024*, and the Contract Final Completion Date on or before *November 18, 2024*.

1. Submit bids on a completed Contractor Bid Form, plus bid security when required, all scanned and included as an attachment to an email with the subject line marked "**Bid for *Roof Replacement and Associated Work at the Center Building***" and addressed to the Bid Administrator at: BGS.Architect@Maine.gov, so as to be received no later than **2:00 PM** on ***April 9, 2024***.

   Bid submissions will be opened and read aloud at the time and date noted above at the Bureau of General Services office, accessible as a video conference call. Those who wish to participate in the call must submit a request for access to BGS.Architect@Maine.gov.

   Any bid received after the noted time will not be considered a valid bid and will remain unopened. Any bid submitted by any other means will not be considered a valid bid. The Bid Administrator may require the Bidder to surrender a valid paper copy of the bid form or the bid security document in certain circumstances.

   Questions on the bid opening process shall be addressed to the Bid Administrator: Joseph H. Ostwald, Director, Division of Planning, Design & Construction, Bureau of General Services, 77 State House Station, Augusta, Maine 04333-0077, BGS.Architect@Maine.gov.

2. The bid shall be submitted on the Contractor Bid Form (section 00 41 13) provided in the Bid Documents. The Owner reserves the right to accept or reject any or all bids as may best serve the interest of the Owner.

3. Bid security *is required* on this project.
   If noted above as required, the Bidder shall include a satisfactory Bid Bond (section 00 43 13) or a certified or cashier's check for 5% of the bid amount with the completed bid form submitted to the Owner. The Bid Bond form is available on the BGS website.

4. Performance and Payment Bonds *are required* on this project.
   If noted above as required, or if any combination of Base Bid and Alternate Bids amounts selected in the award of the contract exceeds $125,000.00, the selected Contractor shall furnish a 100% contract Performance Bond (section 00 61 13.13) and a 100% contract Payment Bond (section 00 61 13.16) in the contract amount to cover the execution of the Work. Bond forms are available on the BGS website.

5. Filed Sub-bids *are not required* on this project.

6. There *are no* Pre-qualified General Contractors on this project.
   If Pre-qualified General Contractors are identified for this project, the name of each company, with their city and state, are listed below.

7. An on-site pre-bid conference *will* be conducted for this project.
   If a pre-bid conference is scheduled, it is *mandatory* for General Contractors and optional for Subcontractors and suppliers. Contractors who arrive late or leave early for a mandatory meeting may be prohibited from participating in this meeting and bidding. *Pre-bid confrence will be held on site at 25 Tyson Drive, Augusta, ME on Thursday, March 21, 2024 at 10:00 AM* .

8. Bid Documents - full sets only - will be available on or about *March 11, 2024* and may be obtained *at no cost* from:
   Gale Associates Inc.
   6 Bedford Farms Drive, Suite 101
   Bedford, NH 03110
   Alan Pinciaro
   Phone: 603-471-1887
   Email: acp@gainc.com

9. Bid Documents may be examined at:
   AGC Maine
   188 Whitten Road
   Augusta, ME 04330
   Phone: 207-622-4741 Fax: 207-622-1625

   Construction Summary
   734 Chestnut Street
   Manchester, NH 03104
   Phone: 603-627-8856 Fax: 603-627-4524

00 21 13
Instructions to Bidders

1. Bidder Requirements

1.1 A bidder is a Contractor which is evidently qualified, or has been specifically pre-qualified by the Bureau of General Services, to bid on the proposed project described in the Bid Documents.

1.2 Contractors and Subcontractors bidding on projects that utilize Filed Sub-bids shall follow the requirements outlined in these Bid Documents for such projects. See Section 00 22 13 for additional information.

1.3 Contractors and Subcontractors are not eligible to bid on the project when their access to project design documents prior to the bid period distribution of documents creates an unfair bidding advantage. Prohibited access includes consultation with the Owner or with design professionals engaged by the Owner regarding cost estimating, constructability review, or project scheduling. This prohibition to bid applies to open, competitive bidding or pre-qualified contractor bidding or Filed Sub-bidding. The Bureau may require additional information to determine if the activities of a Contractor constitute an unfair bidding advantage.

1.4 Each bidder is responsible for becoming thoroughly familiar with the Bid Documents prior to submitting a bid. The failure of a bidder to review evident site conditions, to attend available pre-bid conferences, or to receive, examine, or act on addenda to the Bid Documents shall not relieve that bidder from any obligation with respect to their bid or the execution of the work as a Contractor.

1.5 Prior to the award of the contract, General Contractor bidders or Filed Sub-bidders may be required to provide documented evidence to the Owner or the Bureau showing compliance with the provisions of this section, their business experience, financial capability, or performance on previous projects.

1.6 The selected General Contractor bidder will be required to provide proof of insurance before a contract can be executed.

1.7 Contracts developed from this bid shall not be assigned, sublet or transferred without the written consent of the Owner.

1.8 By submitting a bid the Contractor attests that it has not been declared ineligible to bid on State of Maine projects. The Director of the Bureau of General Services may disallow award of this contract to any Contractor if there is evidence that the Contractor or any of its Subcontractors, through their own fault, have been terminated, suspended for cause, debarred from bidding, agreed to refrain from bidding as part of a settlement, have defaulted on a contract, or had a contract completed by another party.

1.9 The Contractor attests that it is not presently indicted for or otherwise criminally or civilly charged by a Federal, State or local government entity with commission of any of the following offenses and has not within a three-year period preceding this bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction, or contract under a public transaction, violation of Federal or State anti-trust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.

1.10 The Contractor shall not make any award or permit any award (subgrant or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs or State of Maine projects.

2. Authority of Owner

2.1 The Owner reserves the right to accept or reject any or all bids as may best serve the interest of the Owner.

2.2 Subject to the Owner's stated right to accept or reject any or all bids, the Contractor shall be selected on the basis of the lowest dollar value of an acceptable Base Bid, or any combination of Base Bid plus Alternate Bids, as well as other limited cost modifications the Owner determines may best serve the interests of the Owner. An acceptable bid is a duly submitted bid from a responsive and responsible bidder.

2.3 The Owner reserves the right to require Bid Bonds or Performance and Payment Bonds for any project of any contract value.

3. Submitting Bids and Bid Requirements

3.1 Each bid shall be submitted on the forms provided in the Bid Documents.

3.2 Each bid shall be valid for a period of thirty calendar days following the Project bid closing date and time. The bid expiration date may be extended in unusual circumstances by mutual consent of the Bidder and the Owner. The bid amount shall not be modified due to the bid expiration date extension.

3.3 Any provision contained in a bid which shows cost escalation, or any modification of schedule or other requirements shall not be accepted. Such a provision causes the bid to be invalid, or, at the discretion of the Owner and BGS, that element of the bid submission may be disregarded for the purpose of awarding the contract without that provision.

3.4 Bidders shall include a Bid Bond or other approved bid security with the bid form submitted to the Owner when the bid form indicates such bid security is required. The bond value shall be 5% of the bid amount. The form of bond is shown in section 00 43 13.

3.5 Bidders recognize that inclusion of contract bonds and the cost of those bonds is dependent on the awarded contract dollar value. Therefore, a Base Bid, or any combination of Base Bid plus Alternate Bids, as well as other limited cost modifications, resulting in a contract award shall include the cost of Performance and Payment Bonds in the submitted bid amount when the construction contract value is over $125,000.00. Similarly, the cost of Performance and Payment Bonds is excluded in the submitted bid amount when the construction contract value is $125,000.00 or less unless bonds are specifically required by the Bid Documents. When required for the project, the selected Contractor shall provide these bonds before a contract can be executed, pursuant to 14 M.R.S.A., Section 871, Public Works Contractors' Surety Bond Law of 1971, subsection 3. The form of bonds is shown in section 00 61 13.13 and 00 61 13.16.

3.6 Bidders may modify bids in writing, by the same means as the original bid submission, prior to the bid closing time. Such written amendments shall not disclose the amount of the initial bid. If so disclosed, the entire bid is considered invalid.

3.7 Bidders implicitly acknowledge all Addenda issued when they submit the bid form. By usual practice the Consultant shall not issue Addenda less than 72 hours prior to the bid closing time, to allow ample time for bidders to incorporate the information. However, some information, such as extending the bid due date and time, may be issued with shorter notice. Addenda shall be issued to all companies who are registered holders of Bid Documents.

3.8 A bid may be withdrawn without penalty if a written request by the bidder is presented to the Owner prior to the bid closing time. Such written withdrawal requests are subject to verification as required by the Bureau.

A bid may be withdrawn without penalty after the bid closing time if, in the determination of the Bureau, evidence provided by the Contractor shows an apparent unintended error such as a miscalculation, or an erroneous number on estimating documents, was the cause of an inaccurate bid. The Bureau may allow withdrawal in consideration of the bid bond or, without utilizing a bid bond, if the Bureau considers documented evidence provided by the Contractor shows factual errors had been made on the bid form.

3.9 In the event State of Maine Offices unexpectedly close on the published date of a public bid opening in the location of that bid opening, prior to the time of the scheduled deadline, the new deadline for the public bid opening will be the following business day at the originally scheduled hour of the day, at the original location. Official closings are posted on the State of Maine government website.

3.10 The Owner may require, in a Notice of Intent to Award letter to the apparent low bidder, a Schedule of Values, Project Schedule, and List of Subcontractors and Suppliers as both a demonstration of capability of the Bidder and as a condition of award.

3.11 Projects which require a State of Maine wage determination will include that schedule as part of the Bid Documents. See section 00 73 46, if such rates are required.

3.12 Projects which require compliance with the Davis-Bacon Act are subject to the regulations contained the Code for Federal Regulations and the federal wage determination which is made a part of the Bid Documents. See section 00 73 46, if such rates are required.

3.13 The Owner is exempt from the payment of Maine State sales and use taxes as provided in 36 M.R.S. §1760 (1). The Contractor and Subcontractors shall not include taxes on exempt items in the construction contract.

00 41 13
Contractor Bid Form

Roof Replacement and Associated Work at the Center Building BGS#3381

Bid Form submitted by: *email only to email address below*

Bid Administrator:

Linda Greeley Linda.Greeley@maine.gov
Bureau of General Services
111 Sewall Street, Cross State Office Building, 4th Floor
77 State House Station
Augusta, Maine 04333-0077

Bidder:

Signature: _____

Printed name and title: _____

Company name: _____

Mailing address: _____

City, state, zip code: _____

Phone number: _____

Email address: _____

State of incorporation, if a corporation: _____

List of all partners, if a partnership: _____

The Bidder agrees, if the Owner offers to award the contract, to provide any and all bonds and certificates of insurance, as well as Schedule of Values, Project Schedule, and List of Subcontractors and Suppliers if required by the Owner, and to sign the designated Construction Contract within twelve calendar days after the date of notification of such acceptance, except if the twelfth day falls on a State of Maine government holiday or other closure day, or a Saturday, or a Sunday, in which case the aforementioned documents must be received before 12:00 noon on the first available business day following the holiday, other closure day, Saturday, or Sunday.

As a guarantee thereof, the Bidder submits, together with this bid, a bid bond or other acceptable instrument as and if required by the Bid Documents.

00 41 13
Contractor Bid Form

1. The Bidder, having carefully examined the *Roof Replacement and Associated Work at the Center Building* Project Manual dated *Februrary 29, 2024*, prepared by *Gale Associates Inc.*, as well as Specifications, Drawings, and any Addenda, the form of contract, and the premises and conditions relating to the work, proposes to furnish all labor, equipment and materials necessary for and reasonably incidental to the construction and completion of this project for the **Base Bid** amount of:

   $ _____.00

2. Allowances *are included* on this project.
   Bid amount above includes the following Allowances
   Include $2,500.00 for the removal and replacement of additional deteriorated wood decking at Roof Areas A, B, D, E1, and E2.

   Include $1,250.00 for the removal and replacement of additional broken, cracked, and/or loose natural slate shingles at Roof Area C.

   Include $2,500.00 for the removal and replacement of additional deteriorated wood trim. $ *6,250*.00

3. Alternate Bids *are not included* on this project.
   No Alternate Bids
   Any dollar amount line below that is left blank by the Bidder shall be read as a bid of **$0.00**.

   1 Not Used $ _____.00

   2 Not Used $ _____.00

   3 Not Used $ _____.00

   4 Not Used $ _____.00

4. Bid security *is required* on this project.
   If noted above as required, or if the Base Bid amount exceeds $125,000.00, the Bidder shall include with this bid form a satisfactory Bid Bond (section 00 43 13) or a certified or cashier's check for 5% of the bid amount with this completed bid form submitted to the Owner.

5. Filed Sub-bids *are not required* on this project.
   If noted above as required, the Bidder shall include with this bid form a list of each Filed Sub-bidder selected by the Bidder on the form provided (section 00 41 13F).

00 43 13
Contractor Bid Bond

Bond No.: **insert bond number**

We, the undersigned, ***insert company name of Contractor***, ***select type of entity*** of ***insert name of municipality*** in the State of ***insert name of state*** as principal, and ***insert name of surety*** as Surety, are hereby held and firmly bound unto ***select title of obligee*** in the penal sum of ***five percent of the bid amount***, 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 ***insert date, i.e.: 8th*** day of ***select month***, ***select year***, which is the same date as that of the first specified bid due date, or subsequent bid due date revised by addendum.

The condition of the above obligation is such that whereas the principal has submitted to the Owner, or State of Maine, to a certain bid, attached hereto and hereby made a part hereof, to enter into a contract in writing, for the construction of ***insert name of project as designated in the contract documents***

Now therefore:

If said bid shall be rejected, or, in the alternate,

If said bid 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 bid, and shall furnish a bond for the faithful performance of said contract, and for the payment of all persons performing labor or furnishing material in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be void.

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

The Surety, for value received hereby stipulates and agrees that the obligation of said Surety and its bonds shall be in no way impaired or affected by any extension of the time within which the Obligee may accept such bid and said Surety does hereby waive notice of any such extension.

[Fillable bond forms may be downloaded from the Bureau of General Services website.]

00 43 13
Contractor Bid Bond

In witness whereof, the principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set above.

Signed and sealed this ***insert date, i.e.: 8th*** day of ***select month***, ***select year***, which is the first specified bid due date, or subsequent bid due date revised by addendum.

Contractor

(Signature)

insert name and title

insert company name

insert address
insert city state zip code

Surety

(Signature)

insert name and title

insert company name

insert address
insert city state zip code

If Contractor is a partnership, all partners shall execute the bond. A power of attorney document indicating that it still is in full force and effect shall be provided by the person executing this bond.

[Fillable bond forms may be downloaded from the Bureau of General Services website.]

AdvantageME CT# _____

State of Maine
CONSTRUCTION CONTRACT

Large Construction Project

This form is used when the Contract value is $50,000 or greater.
The Project Manual, Specifications and Drawings, and any Addenda are considered part of this Contract.

Agreement entered into by and between the ***contracting entity name*** hereinafter called the ***Owner*** and ***Contractor company name*** hereinafter called the ***Contractor***.

BGS Project No.: ***number assigned by BGS*** Other Project No.: _____

For the following Project: ***title of project as shown on bid documents*** at ***facility or campus name***, ***municipality***, Maine.

The Specifications and the Drawings have been prepared by ***Consultant firm name***, acting as Professional-of-Record and named in the documents as the Consultant Architect or Engineer.

The *Owner* and *Contractor* agree as follows:

ARTICLE 1 COMPENSATION AND PAYMENTS

1.1 The Owner shall pay the Contractor to furnish all labor, equipment, materials and incidentals necessary for the construction of the Work described in the Specifications and shown on the Drawings the Contract Amount as shown below.

Base Bid	*$0.00*
Alternate Bid number and name or "no Alternates"	*$0.00*
Alternate Bid number and name or "no Alternates"	*$0.00*
Alternate Bid number and name or "no Alternates"	*$0.00*
Alternate Bid number and name or "no Alternates"	*$0.00*
Alternate Bid number and name or "no Alternates"	*$0.00*
Total Contract Amount	***$0.00***

1.2 The Contractor's requisition shall contain sufficient detail and supporting information for the Owner to evaluate and support the payment requested.

1.2.1 Payments are due and payable twenty-five working days from the date of receipt of a Contractor requisition which is approved by the Owner.

1.2.2 Provisions for late payments are governed by 5 M.R.S. Chapter 144, *Payment of Invoices Received from Business Concerns*, and interest shall be calculated at 1% per month.

ARTICLE 2 COMMENCEMENT AND COMPLETION DATES

2.1 The Work of this Contract shall commence no sooner than the date this document is executed by the approval authority, or a subsequent date designated in the contract documents.

2.2 The Substantial Completion Date shall be _____.

2.3 The Work of this Contract shall be completed on or before the Contract Final Completion Date of _____.

2.4 The Contract Expiration Date shall be _____. (This date is the Owner's deadline for internal management of contract accounts. The Contract Expiration Date does not directly relate to any contract obligation of the Contractor.)

ARTICLE 3 INELIGIBLE BIDDER

3.1 By signing this contract the Contractor attests that it has not been declared ineligible to bid on State of Maine projects. The Bureau of General Services may disallow award of this contract to any Contractor if there is evidence that the Contractor or any of its Subcontractors, through their own fault, have been terminated, suspended for cause, debarred from bidding, agreed to refrain from bidding as part of a settlement, have defaulted on a contract, or had a contract completed by another party.

3.2 By signing this contract the Contractor attests that it is not presently indicted for or otherwise criminally or civilly charged by a Federal, State or local government entity with commission of any of the following offenses and has not within a three-year period preceding this bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction, or contract under a public transaction, violation of Federal or State anti-trust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.

3.3 The Contractor shall not make any award or permit any award (subgrant or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs or State of Maine projects.

ARTICLE 4 CONTRACTOR'S RESPONSIBILITIES

4.1 On this project, the Contractor ***shall*** furnish the Owner the appropriate contract bonds in the amount of 100% of the Contract Sum. Contract bonds are mandated if the Contract Sum exceeds $125,000, or if bonds are specifically required by the Contract Documents.

4.2 The Contractor shall comply with all laws, codes and regulations applicable to the Work.

4.3 The Contractor shall acquire all permits and third-party approvals applicable to the Work not specifically identified as provided by the Owner. Costs for Contractor-provided permits and third-party approvals shall be included in the Contract Sum identified in Section 1.1 above.

4.4 The Contractor shall remain an independent agent for the duration of this Contract, shall not become an employee of the State of Maine, and shall assure that no State employee will be compensated by, or otherwise benefit from, this Contract.

4.5 The Contractor shall be responsible for any design cost, construction cost, or other cost incurred on the Project to the extent caused by the negligent acts, errors or omissions of the Contractor or their Subcontractors in the performance of Work under this Contract.

ARTICLE 5 OWNER'S RESPONSIBILITIES

5.1 The Owner shall provide full information about the objectives, schedule, constraints and existing conditions of the project. The Owner has established a budget with reasonable contingencies that meets the project requirements.

5.2 By signing this contract, the Owner attests that all State of Maine procurement requirements for this contract have been met, including the solicitation of competitive bids.

ARTICLE 6 INSTRUMENTS OF SERVICE

6.1 The Contractor's use of the drawings, specifications and other documents known as the Consultant's Instruments of Service is limited to the execution of the Contractor's scope of work of this project unless the Contractor receives the written consent of the Owner and Consultant for use elsewhere.

ARTICLE 7 MISCELLANEOUS PROVISIONS

7.1 This Contract shall be governed by the laws of the State of Maine.

7.2 The Owner and Contractor, respectively, bind themselves, their partners, successors, assigns and legal representatives to this Contract. Neither party to this Contract shall assign the Contract as a whole without written consent of the other party, which consent the Owner may withhold without cause.

7.3 Notwithstanding any other provision of this Agreement, if the Owner does not receive sufficient funds to fund this Agreement or funds are de-appropriated, or if the Owner does not receive legal authority from the Maine State Legislature or Maine Courts to expend funds intended for this Agreement, then the Owner is not obligated to make payment under this Agreement; provided, however, the Owner shall be obligated to pay for services satisfactorily performed prior to any such non-appropriation in accordance with the termination provisions of this Agreement. The Owner shall timely notify the Contractor of any non-appropriation and the effective date of the non-appropriation.

ARTICLE 8 CONTRACT DOCUMENTS

8.1 The Project Manual, Specifications and Drawings, and any Addenda, together with this agreement, form the contract. Each element is as fully a part of the Contract as if hereto attached or herein repeated.

8.2 Specifications: ***indicate date of issuance of project manual***

8.3 Drawings: ***note here or attach each sheet number and title***

8.4 Addenda: ***note each addenda number and date, or "none"***

BGS Project No.: _____

The Contract is effective as of the date executed by the approval authority.

OWNER	**CONTRACTOR**
Signature *Date* *name and title* *name of contracting entity* *address* *telephone* *email address*	*Signature* *Date* *name and title* *name of contractor company* *address* *telephone* *email address* *Vendor Number*

Indicate the names of the review and approval individuals appropriate to the approval authority.

select proper approval authority	
Reviewed by:	**Approved by:**
Signature *Date* *insert name*	*Signature* *Date* *Joseph H. Ostwald*
Project Manager/ Contract Administrator	*Director, Planning, Design & Construction*

00 61 13.13
Contractor Performance Bond

Bond No.: **insert bond number**

We, the undersigned, ***insert company name of Contractor***, ***select type of entity*** of ***insert name of municipality*** in the State of ***insert name of state*** as principal, and ***insert name of surety*** as Surety, are hereby held and firmly bound unto ***select title of obligee*** in the penal sum of the Contract Price $ ***insert the Contract Price in numbers*** 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.

The condition of the above obligation is such that if the principal shall promptly and faithfully perform the contract entered into this ***insert date, i.e.: 8th*** day of ***select month***, ***select year***, which is the same date as that of the notice of intent to award letter, or in the absence of such a letter, not later than the date the Owner signs the construction contract, for the construction of ***insert name of project as designated in the contract documents***, then this obligation shall be null and 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 bonds shall be in no way impaired or affected by any extension of the time which the Obligee may accept during the performance of the contract and said Surety does hereby waive notice of any such extension.

[Fillable bond forms may be downloaded from the Bureau of General Services website.]

00 61 13.13
Contractor Performance Bond

In witness whereof, the principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set above.

Signed and sealed this ***insert date, i.e.: 8th*** day of ***select month***, ***select year***, which is the same date as that of the notice of intent to award letter, or in the absence of such a letter, not later than the date the Owner signs the construction contract.

Contractor

_____

(Signature)

insert name and title

insert company name

insert address
insert city state zip code

Surety

_____

(Signature)

insert name and title

insert company name

insert address
insert city state zip code

If Contractor is a partnership, all partners shall execute the bond. A power of attorney document indicating that it still is in full force and effect shall be provided by the person executing this bond.

[Fillable bond forms may be downloaded from the Bureau of General Services website.]

00 61 13.16
Contractor Payment Bond

Bond No.: **insert bond number**

We, the undersigned, ***insert company name of Contractor***, ***select type of entity*** of ***insert name of municipality*** in the State of ***insert name of state*** as principal, and ***insert name of surety*** as Surety, are hereby held and firmly bound unto ***select title of obligee*** in the penal sum of the Contract Price $ ***insert the Contract Price in numbers*** for the use and benefit of claimants, defined as an entity having a contract with the principal or with a subcontractor of the principal for labor, materials, or both labor and materials, used or reasonably required for use in the performance of the contract, 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.

The condition of the above 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 described in the contract entered into this ***insert date, i.e.: 8th*** day of ***select month***, ***select year***, which is the same date as that of the notice of intent to award letter, or in the absence of such a letter, not later than the date the Owner signs the construction contract, for the construction of ***insert name of project as designated in the contract documents***, and shall fully reimburse the obligee for all outlay and expense with said obligee may incur in making good any default of said principal, then this obligation shall be null and 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 bonds shall be in no way impaired or affected by any extension of the time which the Obligee may accept during the performance of the contract and said Surety does hereby waive notice of any such extension.

[Fillable bond forms may be downloaded from the Bureau of General Services website.]

00 61 13.16
Contractor Payment Bond

In witness whereof, the principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set above.

Signed and sealed this ***insert date, i.e.: 8th*** day of ***select month***, ***select year***, which is the same date as that of the notice of intent to award letter, or in the absence of such a letter, not later than the date the Owner signs the construction contract.

Contractor

_____

(Signature)

insert name and title

insert company name

insert address
insert city state zip code

Surety

_____

(Signature)

insert name and title

insert company name

insert address
insert city state zip code

If Contractor is a partnership, all partners shall execute the bond. A power of attorney document indicating that it still is in full force and effect shall be provided by the person executing this bond.

[Fillable bond forms may be downloaded from the Bureau of General Services website.]

Form revision date: 12 May 2023

AdvantageME CT# 00000000000000000000

State of Maine
CONSTRUCTION CONTRACT
Application for Payment

Project name
location / school / campus

Contractor Company name
address
city state zip code

Application Number: **1**
Period Start Date: 1-Jul-2020
Period End Date: 31-Jul-2020
BGS Project No.: n
Other Project No.: x

1	Original Contract Amount			$0
2	Net of Change Orders to Date	(from table below)		$0
3	Contract Sum to Date	(line 1 plus or minus line 2)		$0
4	Total Completed and Stored to Date	(column G on Continuation Sheet)		$0
5a	5% Retainage of Completed Work	(columns D + E x 5%)	$0	
5b	5% Retainage of Stored Materials	(column F x 5%)	$0	
5c	Total Retainage	(column I)		$0
6	Total Earned Less Retainage	(line 4 minus line 5c)		$0
7	Less Previous Approved Applications for Payment	(line 6 from previous Application)		$0
8	Current Payment Due	(line 6 minus line 7)		**$0**
9	Balance to Finish, Including Retainage	(line 3 minus line 6)	$0	

Change Order Summary	Additions	Deductions	
Total Changes Approved in Previous Months	$0	$0	
Total Changes Approved this Month	$0	$0	
Subtotals	$0	$0	
Net of Change Orders to Date			$0

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 the previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

Contractor
Type company name here
Type person's name, title here

signature date

In accordance with the Contract Documents, based on on-site observations and the data comprising this Application, the Consultant certifies to the Owner that to the best of the Consultant'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:** _____

Consultant (Architect or Engineer)
Type firm name here
Type person's name, title here

signature date

Owner
Type contracting entity name here
Type person's name, title here

signature date

Owner's Rep / other - clear this text if not used
Type entity name here
Type person's name, title here

signature date

Bureau of General Services

Type person's name, title here

signature date

Form revision date: 12 May 2023

State of Maine
CONSTRUCTION CONTRACT
Application for Payment - Continuation Sheet

Application Number: **1**
Period Start Date: 1-Jul-2020
Period End Date: 31-Jul-2020
BGS Project No.: n
Other Project No.: x

Project name

Contractor Company name

page 1 of 2

A	B	C	D	E	F	G		H	I
Item No.	Description of Work	Scheduled Value	Work Completed From Previous Application (Previous D + E)	Work Completed From This Period	Total Stored Materials (Not in D or E)	Total Completed and Stored to Date (D + E + F)	Percent Complete (G ÷ C)	Balance to Finish (C - G)	Retainage 5%
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0
		$0	0	0	0	0	0.0%	$0	0

	Total	$0	$0	$0	$0	$0	0.0%	$0	$0

revised 05 April 2021

State of Maine
CONSTRUCTION CONTRACT
Construction Change Directive

Project name
location / school / campus

Contractor Company name
address
city state zip code

C. C. D. Number: **1**
CP (Change Proposal) Number 1
Issue Date of this Document: 31-Oct-2021

BGS Project No.: n
Other Project No.: x

CCD Item	Type name of CCD item here		
Description of Work	Type brief description here of work scope here.		
Reason or Necessity of Work	Type brief justification for change here.		
Method of Compensation	Select from drop down box…	**Projected Total Cost**	$0
Supporting Documentation	is attached	**Projected Calendar Days***	0

** Calendar Days refers to Contract Final Completion Date only.*
Fully describe the scope of work of the CCD item in the table above and on attached drawings and specifications as necessary.
Indicate the reason for the work, and the estimated schedule and cost impacts.
This CCD records the order to do the work. The documented actual final time and cost changes are subject to approval in a subsequent Change Order process.

Consultant (Architect or Engineer)
Type firm name here
Type person's name, title here
signature date

Contractor
Type company name here
Type person's name, title here
signature date

Owner
Type contracting entity name here
Type person's name, title here
signature date

Owner's Rep
Type entity name here
Type person's name, title here
signature date

Bureau of General Services
Division of Planning, Design & Construction
Type person's name, title here
signature date

revised 05 April 2021

AdvantageME CT# 0000

State of Maine
CONSTRUCTION CONTRACT
Change Order

Project name
location / school / campus

Change Order Number: **1**

Issue Date of this Document: 31-Dec-2022

Contractor Company name
address
city state zip code

BGS Project No.: n
Other Project No.: x

Cost Change *Show Deduct as a negative number, e.g.: "-$850".*

	Add	Deduct	Total
Net Amount of this Change Order	$0	$0	
Net Amount of Previous Change Orders	$0	$0	
Net of Change Orders to Date	$0	$0	$0
Original Contract Amount			$0
		Revised Contract Amount	**$0**

Time Change *Show Deduct as a negative number, e.g.: "-8".*

	Add	Deduct	Total
Net Calendar Days Adjusted by this Change Order	0	0	
Net Calendar Days Adjusted by Previous Change Orders	0	0	
Net of Change Orders to Date	0	0	0
Original Contract Final Completion Date			31-Dec-2023
		Revised Contract Final Completion Date*	**31-Dec-2023**

Consultant (Architect or Engineer)
Type firm name here
Type person's name, title here

signature date

Contractor
Type company name here
Type person's name, title here

signature date

Owner
Type contracting entity name here
Type person's name, title here

signature date

Type Entity, such as "Owner's Rep", or "not used"
Type entity name here
Type person's name, title here

signature date

Bureau of General Services
Division of Planning, Design & Construction
Type person's name, title here

signature date

Attach the "List of Change Order Items" sheet, plus all supporting documentation for each Change Order Item.

Substantial Completion Date: the deadline for first beneficial use by Owner, as certified by Consultant.	*1-Dec-2023*
**** Contract Final Completion Date** : the Contractor's final completion deadline for contract work.*	*31-Dec-2023*
Contract Expiration Date: the Owner's deadline for internal management of contract accounts; Contract Expiration Date does not directly relate to any contract obligation of the Contractor.	*29-Feb-2024*

List of Change Order Items

Project name
Contractor Company name

C. O. Number: 1

CO Item No.	CP No.	Item Name	Reason Code	Calendar Days*	Cost
1	1	Type brief name of Change Order Item here		0	$0
				0	$0
				0	$0
				0	$0
				0	$0
				0	$0
				0	$0
				0	$0
				0	$0
				0	$0
				0	$0
				0	$0
				0	$0
				0	$0
				0	$0
				0	$0
			Totals	**0**	**$0**

Reason Codes

EO Error or omission of Consultant
UC Unforeseen job site condition
OC Owner-generated change
RC Regulatory authority-generated change
CC Contractor-generated change

** Calendar Days shows Contract Final Completion Date impact only.*

Attach this sheet to the BGS "Change Order" cover sheet (with cost and time summaries, and signatures). Attach a "Details" sheet, and other supporting documentation, for each Change Order Item listed above.

revised 05 April 2021

State of Maine Change Order

Details of Change Order Item

Project name
location / school / campus

Contractor Company name
address
city state zip code

Change Order Item Number **1**
CP (Change Proposal) Number 1
Issue Date of this Document: 31-Oct-2021

BGS Project No.: n
Other Project No.: x

Change Order Item	Type name of Change Order Item here
Description of Work	Type brief description here of work scope here.
Reason or Necessity of Work	Type brief justification for change here.

Cost Breakdown	Work by Subcontractor only	Work by Sub *and* Contractor	Work by Contractor only	
Subcontractor base cost	$0	$0		
Subcontractor markup	$0	$0		
Contractor base cost		$0	$0	
Contractor markup	$0	$0	$0	
Subtotal	$0	$0	$0	
Compensation	lump sum		**Total Cost**	**$0**
Initiated by	Consultant		**Calendar Days***	0
Reason Code	CC		**Supporting Documentation**	is attached

EO	*UC*	*OC*	*RC*	*CC*
Error or omission of Consultant	*Unforeseen job site condition*	*Owner-generated change*	*Regulatory authority-generated change*	*Contractor-generated change*

** Calendar Days shows Contract Final Completion Date impact only.*

Consultant (Architect or Engineer)
Type firm name here
Type person's name, title here
signature date

Contractor
Type company name here
Type person's name, title here
signature date

Owner
Type contracting entity name here
Type person's name, title here
signature date

Owner's Rep
Type entity name here
Type person's name, title here
signature date

Bureau of
General Services

Division of Planning, Design & Construction
Type person's name, title here

signature date

00 71 00
Definitions

1. Definitions

1.1 *Addendum*: A document issued by the Consultant that amends the Bid Documents. Addenda shall not be issued less than seventy-two hours prior to the specified bid opening time.

1.2 *Allowance*: A specified dollar amount for a particular scope of work or service included in the Work that is identified in the Bid Documents and included in each Bidder's Bid. The Contractor shall document expenditures for an Allowance during the Project. Any unused balance shall be credited to the Owner. The Contractor is responsible for notifying the Owner of anticipated expenses greater than the specified amount and the Owner is responsible for those additional expenses.

1.3 *Alternate Bid*: The Contractor's written offer of a specified dollar amount, submitted on the Bid Form, for the performance of a particular scope of work described in the Bid Documents. The Owner determines the low bidder based on the sum of the base Bid and any combination of Alternate Bids that the Owner selects.

1.4 *Architect*: A Consultant acting as, or supporting, the Professional-of-Record who is responsible for the design of the Project. Equivalent to "Consultant" in State of Maine contract forms.

1.5 *Architectural Supplemental Instruction (ASI)*: A written instruction from the Architect for the purpose of clarification of the Contract Documents. An ASI does not alter the Contract Price or Contract Time. ASIs may be responses to RFIs and shall be issued by the Architect in a timely manner to avoid any negative impact on the Schedule of the Work.

1.6 *Bid*: The Contractor's written offer of a specified dollar amount or amounts, submitted on a form included in the Bid Documents, for the performance of the Work. A Bid may include bonds or other requirements. A base Bid is separate and distinct from Alternate Bids, being the only cost component necessary for the award of the contract, and representing the minimum amount of Work that is essential for the functioning of the Project.

1.7 *Bid Bond*: The security designated in the Bid Documents, furnished by Bidders as a guaranty of good faith to enter into a contract with the Owner, should a contract be awarded to that Bidder.

1.8 *Bidder*: Any business entity, individual or corporation that submits a bid for the performance of the work described in the Bid Documents, acting directly or through a duly authorized representative. See also *Responsive and Responsible Bidder*.

1.9 *Bid Documents*: The drawings, procurement and contracting requirements, general requirements, and the written specifications -including all addenda, that a bidder is required to reference in the submission of a bid.

1.10 *Bureau*: The State of Maine Bureau of General Services, or BGS, in the Department of Administrative and Financial Services.

1.11 *Calendar days*: Consecutive days, as occurring on a calendar, taking into account each day of the week, month, year, and any religious, national or local holidays. Calendar days are used for changes in Contract Time.

1.12 *Certificate of Substantial Completion*: A document developed by the Consultant that describes the final status of the Work and establishes the date that the Owner may use the facility for its intended purpose. The Certificate of Substantial Completion may also include a provisional list of items - a "punch list" - remaining to be completed by the Contractor. The Certificate of Substantial Completion identifies the date from which the project warranty period commences.

1.13 *Certificate of Occupancy*: A document developed by a local jurisdiction such as the Code Enforcement Officer that grants permission to the Owner to occupy a building.

1.14 *Change Order (CO)*: A document that modifies the contract and establishes the basis of a specific adjustment to the Contract Price or the Contract Time, or both. Change Orders may address correction of omissions, errors, and document discrepancies, or additional requirements. Change Orders should include all labor, materials and incidentals required to complete the work described. A Change Order is not valid until signed by the Contractor, Owner and Consultant and approved by the Bureau.

1.15 *Change Order Proposal (COP) (see also Proposal)*: Contract change proposed by the Contractor regarding the contract amount, requirements, or time. The Contractor implements the work of a COP after it is accepted by all parties. Accepted COPs are incorporated into the contract by Change Order.

1.16 *Clerk of the Works*: The authorized representative of the Consultant on the job site. Clerk of the Works is sometimes called the Architect's representative.

1.17 *Construction Change Directive (CCD)*: A written order prepared by the Consultant and signed by the Owner and Consultant, directing a change in the Work prior to final agreement with the Contractor on adjustment, if any, in the Contract Price or Contract Time, or both.

1.18 *Contract*: A written agreement between the Owner and the successful bidder which obligates the Contractor to perform the work specified in the Contract Documents and obligates the Owner to compensate the Contractor at the mutually accepted sum, rates or prices.

1.19 *Contract Bonds (also known as Payment and Performance Bonds)*: The approved forms of security, furnished by the Contractor and their surety, which guarantee the faithful performance of all the terms of the contract and the payment of all bills for labor, materials and equipment by the Contractor.

1.20 *Contract Documents*: The drawings and written specifications (including all addenda), Standard General Conditions, and the contract (including all Change Orders subsequently incorporated in the documents).

1.21 *Contract Expiration Date*: Date determined by the Owner as a deadline for internal management of contract accounts. This allows time after the Contract Final Completion Date for processing the final Requisition for Payment. The Contract Expiration Date does not directly relate to any contract obligation of the Contractor.

1.22 *Contract Final Completion Date*: Point of time when the Work is fully completed in compliance with the Contract Documents, as certified by the Consultant. Final payment to the Contractor is due upon Final Completion of the Project.

1.23 *Contract Price*: The dollar amount of the construction contract, also called *Contract Sum*.

1.24 *Contract Time*: The designated duration of time to execute the Work of the contract, with a specific date for completion.

1.25 *Contractor*: Also called the "General Contractor" or "GC" the individual or entity undertaking the execution of the general contract work under the terms of the contract with the Owner, acting directly or through a duly authorized representative. The Contractor is responsible for the means, methods and materials utilized in the execution and completion of the Work.

1.26 *Consultant*: The Architect or Engineer acting as Professional-of-Record for the Project. The Consultant is responsible for the design of the Project.

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

1.28 *Engineer*: A Consultant acting as, or supporting, the Professional-of-Record who is responsible for the design of the Project. Equivalent to “Consultant” in State of Maine contract forms.

1.29 *Filed Sub-bid*: The designated major Subcontractor's (or, in some cases, Contractor’s) written offer of a specified dollar amount or amounts, submitted on a form included in the Bid Documents, for the performance of a particular portion of the Work. A Filed Sub-bid may include bonds or other requirements.

1.30 *General Requirements*: The on-site overhead expense items the Contractor provides for the Project, typically including, but not limited to, building permits, construction supervision, Contract Bonds, insurance, field office, temporary utilities, rubbish removal, and site fencing. Overhead expenses of the Contractor's general operation are not included. Sometimes referred to as the Contractor's General Conditions.

1.31 *Owner*: The State agency which is represented by duly authorized individuals. The Owner is responsible for defining the scope of the Project and compensation to the Consultant and Contractor.

1.32 *Owner’s Representative*: The individual or entity contracted by the Owner to be an advisor and information conduit regarding the Project.

1.33 *Overhead*: General and administrative expenses of the Contractor’s principal and branch offices, including payroll costs and other compensation of Contractor employees, deductibles paid on any insurance policy, charges against the Contractor for delinquent payments, and costs related to the correction of defective work, and the Contractor’s capital expenses, including interest on capital used for the work.

1.34 *Performance and Payment Bonds (also known as Contract Bonds)*: The approved forms of security, furnished by the Contractor and their surety, which guarantee the faithful performance of all the terms of the contract and the payment of all bills for labor, materials and equipment by the Contractor.

1.35 *Post-Bid Addendum*: Document issued by the Consultant that defines a potential Change Order prior to signing of the construction contract. The Post-Bid Addendum allows the Owner to negotiate

contract changes with the Bidder submitting the lowest valid bid, only if the negotiated changes to the Bid Documents result in no change or no increase in the bid price.

A Post-Bid Addendum may also be issued after a competitive construction Bid opening to those Bidders who submitted a Bid initially, for the purpose of rebidding the Project work without re-advertising.

1.36 *Project*: The construction project proposed by the Owner to be constructed according to the Contract Documents. The Project, a public improvement, may be tied logistically to other public improvements and other activities conducted by the Owner or other contractors.

1.37 *Proposal (see also Change Order Proposal)*: The Contractor's written offer submitted to the Owner for consideration containing a specified dollar amount or rate, for a specific scope of work, and including a schedule impact, if any. A proposal shall include all costs for overhead and profit. The Contractor implements the work of a Proposal after it is accepted by all parties. Accepted Proposals are incorporated into the contract by Change Order.

1.38 *Proposal Request (PR)*: An Owner's written request to the Contractor for a Change Order Proposal.

1.39 *Punch List*: A document that identifies the items of work remaining to be done by the Contractor at the Close Out of a Project. The Punch List is created as a result of a final inspection of the work only after the Contractor attests that all of the Work is in its complete and permanent status.

1.40 *Request For Information (RFI)*: A Contractor's written request to the Consultant for clarification, definition or description of the Work. RFIs shall be presented by the Contractor in a timely manner to avoid any negative impact on the Schedule of the Work.

1.41 *Request For Proposal (RFP)*: An Owner's written request to the Contractor for a Change Order Proposal.

1.42 *Requisition for Payment*: The document in which the Contractor certifies that the Work described is, to the best of the Contractor's knowledge, information and belief, complete and that all previous payments have been paid by the Contractor to Subcontractors and suppliers, and that the current requested payment is now due. See *Schedule of Values.*

1.43 *Responsive and Responsible Bidder*: A bidder who complies, when submitting a bid on a given project, with the following *responsive* standards, as required by the Bid Documents:
- submits specific qualifications to bid the project, if required;
- attends mandatory pre-bid conferences, if required;
- submits a bid prior to the close of the bid period;
- submits a complete bid form;
- submits a bid without indications of intent contrary to the stated requirements;
- submits other materials and information, such as bid security, as required;

and, meets the following minimums regarding these *responsible* standards:
- sustains a satisfactory record of project performance;
- maintains a permanent place of business in a known physical location;
- possesses the financial means for short- and long-term operations;
- possesses the appropriate technical experience and capabilities;
- employs adequate personnel and subcontractor resources;

maintains the equipment needed to perform the work;
complies with the proposed implementation schedule;
complies with the insurance and bonding requirements;
provides post-construction warranty coverage;
and other criteria which can be considered relevant to the contract.

1.44 *Retainage*: The amount, calculated at five percent (5%) of the contract value or a scheduled value, that the Owner shall withhold from the Contractor until the work or portion of work is declared substantially complete or otherwise accepted by the Owner. The Owner may, if requested, reduce the amount withheld if the Owner deems it desirable and prudent to do so. (See Title 5 M.R.S.A., Section 1746.)

1.45 *Sample*: A physical example provided by the Contractor which illustrates materials, equipment or workmanship and establishes standards by which the Work will be judged.

1.46 *Schedule of the Work*: The document prepared by the Contractor and approved by the Owner that specifies the dates on which the Contractor plans to begin and complete various parts of the Work, including dates on which information and approvals are required from the Owner.

1.47 *Schedule of Values*: The document prepared by the Contractor and approved by the Owner before the commencement of the Work that specifies the dollar values of discrete portions of the Work equal in sum to the contract amount. The Schedule of Values is used to document progress payments of the Work in regular (usually monthly) requisitions for payment. See *Requisition for Payment*.

1.48 *Shop Drawings*: The drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

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

1.50 *Subcontractor*: An individual or entity undertaking the execution of any part of the Work by virtue of a written agreement with the Contractor or any other Subcontractor. Also, an individual or entity retained by the Contractor or any other Subcontractor as an independent contractor to provide the labor, materials, equipment or services necessary to complete a specific portion of the Work.

1.51 *Substantial Completion Date*: Point of time when the Work or a designated portion of the Work is sufficiently complete in compliance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended purpose without unscheduled disruption. Substantial Completion is documented by the date of the Certificate of Substantial Completion signed by the Owner and the Contractor.

1.52 *Superintendent*: The representative of the Contractor on the job site, authorized by the Contractor to receive and fulfill instructions from the Consultant.

1.53 *Surety*: The individual or entity that is legally bound with the Contractor and Subcontractor to insure the faithful performance of the contract and for the payment of the bills for labor, materials and equipment by the Contractor and Subcontractors.

1.54 *Work*: The construction and services, whether completed or partially completed, including all labor, materials, equipment and services provided or to be provided by the Contractor and Subcontractors to fulfill the requirements of the Project as described in the Contract Documents.

00 72 13
General Conditions

Table of Contents of this General Conditions Section

1. Preconstruction Conference

1.1 The Contractor shall, upon acceptance of a contract and prior to commencing work, schedule a preconstruction conference with the Owner and Consultant. The purpose of this conference is as follows.

1.1.1 Introduce all parties who have a significant role in the Project, including:
Owner (State agency or other contracting entity)
Owner's Representative
Consultant (Architect or Engineer)
Subconsultants
Clerk-of-the-works
Contractor (GC)
Superintendent
Subcontractors
Other State agencies
Construction testing company
Commissioning agent
Special Inspections agent
Bureau of General Services (BGS);

1.1.2 Review the responsibilities of each party;

1.1.3 Review any previously-identified special provisions of the Project;

1.1.4 Review the Schedule of the Work calendar submitted by the Contractor to be approved by the Owner and Consultant;

1.1.5 Review the Schedule of Values form submitted by the Contractor to be approved by the Owner and Consultant;

1.1.6 Establish routines for Shop Drawing approval, contract changes, requisitions, et cetera;

1.1.7 discuss jobsite issues;

1.1.8 Discuss Project close-out procedures;

1.1.9 Provide an opportunity for clarification of Contract Documents before work begins; and

1.1.10 Schedule regular meetings at appropriate intervals for the review of the progress of the Work.

2. Intent and Correlation of Contract Documents

2.1 The intent of the Contract Documents is to describe the complete Project. The Contract Documents consist of various components; each component complements the others. What is shown as a requirement by any one component shall be inferred as a requirement on all corresponding components.

2.2 The Contractor shall furnish all labor, equipment and materials, tools, transportation, insurance, services, supplies, operations and methods necessary for, and reasonably incidental to, the construction and completion of the Project. Any work that deviates from the Contract Documents which appears to be required by the exigencies of construction or by inconsistencies in the Contract Documents, will be determined by the Consultant and authorized in writing by the Consultant, Owner and the Bureau prior to execution. The Contractor shall be responsible for requesting clarifying information where the intent of the Contract Documents is uncertain.

2.3 The Contractor shall not utilize any apparent error or omission in the Contract Documents to the disadvantage of the Owner. The Contractor shall promptly notify the Consultant in writing of such errors or omissions. The Consultant shall make any corrections or clarifications necessary in such a situation to document the true intent of the Contract Documents.

3. Additional Drawings and Specifications

3.1 Upon the written request of the Contractor, the Owner shall provide, at no expense to the Contractor, up to five sets of printed Drawings and Specifications for the execution of the Work.

3.2 The Consultant shall promptly furnish to the Contractor revised Drawings and Specifications, for the area of the documents where those revisions apply, when corrections or clarifications are made by the Consultant. All such information shall be consistent with, and reasonably inferred from, the Contract Documents. The Contractor shall do no work without the proper Drawings and Specifications.

4. Ownership of Contract Documents

4.1 The designs represented on the Contract Documents are the property of the Consultant. The Drawings and Specifications shall not be used on other work without consent of the Consultant.

5. Permits, Laws, and Regulations

5.1 The Owner is responsible for obtaining any zoning approvals or other similar local project approvals necessary to complete the Work, unless otherwise specified in the Contract Documents.

5.2 The Owner is responsible for obtaining Maine Department of Environmental Protection, Maine Department of Transportation, or other similar state government project approvals necessary to complete the Work, unless otherwise indicated in the Contract Documents.

5.3 The Owner is responsible for obtaining any federal agency project approvals necessary to complete the Work, unless otherwise indicated in the Contract Documents.

5.4 The Owner is responsible for obtaining all easements for permanent structures or permanent changes in existing facilities.

5.5 The Contractor is responsible for obtaining and paying for all permits and licenses necessary for the implementation of the Work. The Contractor shall notify the Owner of any delays, variance or restrictions that may result from the issuing of permits and licenses.

5.6 The Contractor shall comply with all ordinances, laws, rules and regulations and make all required notices bearing on the implementation of the Work. In the event the Contractor observes disagreement between the Drawings and Specifications and any ordinances, laws, rules and regulations, the Contractor shall promptly notify the Consultant in writing. Any necessary changes shall be made as provided in the contract for changes in the work. The Contractor shall not perform any work knowing it to be contrary to such ordinances, laws, rules and regulations.

5.7 The Contractor shall comply with local, state and federal regulations regarding construction safety and all other aspects of the Work.

5.8 The Contractor shall comply with the Maine Code of Fair Practices and Affirmative Action, 5 M.R.S. §784 (2).

6. Taxes

6.1 The Owner is exempt from the payment of Maine State sales and use taxes as provided in 36 M.R.S. §1760 (1). The Contractor and Subcontractors shall not include taxes on exempt items in the construction contract.

6.2 Section 1760 further provides in subsection 61 that sales to a construction contractor or its subcontractor of tangible personal property that is to be physically incorporated in, and become a permanent part of, real property for sale to or owned by the Owner, are exempt from Maine State sales and use taxes. Tangible personal property is defined in 36 M.R.S. §1752 (17).

6.3 The Contractor may contact Maine Revenue Services, 24 State House Station, Augusta, Maine 04333 for guidance on tax exempt regulations authorized by 36 M.R.S. §1760 and detailed in Rule 302 (18-125 CMR 302).

7. Labor and Wages

7.1 The Contractor shall conform to the labor laws of the State of Maine, and all other laws, ordinances, and legal requirements affecting the work in Maine.

7.2 The Consultant shall include a wage determination document prepared by the Maine Department of Labor in the Contract Documents for state-funded contracts in excess of $50,000. The document shows the minimum wages required to be paid to each category of labor employed on the project.

7.3 On projects requiring a Maine wage determination, the Contractor shall submit monthly payroll records to the Owner ("the contracting agency") showing the name and occupation of all workers and all independent contractors employed on the project. The monthly submission must also include the Contractor's company name, the title of the project, hours worked, hourly rate or other method of remuneration, and the actual wages or other compensation paid to each person.

7.4 The Contractor shall not reveal, in the payroll records submitted to the Owner, personal information regarding workers and independent contractors, other than the information described above. Such information shall not include Social Security number, employee identification number, or employee address or phone number, for example.

7.5 The Contractor shall conform to Maine statute (39-A M.R.S. §105-A (6)) by providing to the Workers' Compensation Board 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.

7.6 The Contractor shall enforce strict discipline and good order among their employees at all times, and shall not employ any person unfit or unskilled to do the work assigned to them.

7.7 The Contractor shall promptly pay all employees when their compensation is due, shall promptly pay all others who have billed and are due for materials, supplies and services used in the Work, and shall promptly pay all others who have billed and are due for insurance, workers compensation coverage, federal and state unemployment compensation, and Social Security

charges pertaining to this Project. Before final payments are made, the Contractor shall furnish to the Owner affidavits that all such payments described above have been made.

7.8 The Contractor may contact the Maine Department of Labor, 54 State House Station, Augusta, Maine 04333 for guidance on labor issues.

7.9 The Contractor may contact the Maine Workers' Compensation Board, 27 State House Station, Augusta, Maine 04333 for guidance on workers' compensation issues.

8. Indemnification

8.1 The Contractor shall indemnify and hold harmless the Owner and its officers and employees from and against any and all damages, liabilities, and costs, including reasonable attorney's fees, and defense costs, for any and all injuries to persons or property, including claims for violation of intellectual property rights, to the extent caused by the negligent acts or omissions of the Contractor, its employees, agents, officers or subcontractors in the performance of work under this Agreement. The Contractor shall not be liable for claims to the extent caused by the negligent acts or omissions of the Owner or for actions taken in reasonable reliance on written instructions of the Owner.

8.2 The Contractor shall notify the Owner promptly of all claims arising out of the performance of work under this Agreement by the Contractor, its employees or agents, officers or subcontractors.

8.3 This indemnity provision shall survive the termination of the Agreement, completion of the project or the expiration of the term of the Agreement.

9. Insurance Requirements

9.1 The Contractor shall provide, with each original of the signed Contract, an insurance certificate or certificates acceptable to the Owner and BGS. The Contractor shall submit insurance certificates to the Owner and BGS at the commencement of this Contract and at policy renewal or revision dates. The certificates shall identify the project name and BGS project number, and shall name the Owner as certificate holder and as additional insured for general liability and automobile liability coverages. The submitted forms shall contain a provision that coverage afforded under the insurance policies will not be canceled or materially changed unless at least ten days prior written notice by registered letter has been given to the Owner and BGS.

9.2 The Owner does not warrant or represent that the insurance required herein constitutes an insurance portfolio which adequately addresses all risks faced by the Contractor or its Subcontractors. The Contractor is responsible for the existence, extent and adequacy of insurance prior to commencement of work. The Contractor shall not allow any Subcontractor to commence work until all similar insurance required of the Subcontractor has been confirmed by the Contractor.

9.3 The Contractor shall procure and maintain primary insurance for the duration of the Project and, if written on a Claims-Made basis, shall also procure and maintain Extended Reporting Period (ERP) insurance for the period of time that any claims could be brought. The Contractor shall ensure that all Subcontractors they engage or employ will procure and maintain similar insurance

in form and amount acceptable to the Owner and BGS. At a minimum, the insurance shall be of the types and limits set forth herein protecting the Contractor from claims which may result from the Contractor's execution of the Work, whether such execution be by the Contractor or by those employed by the Contractor or by those for whose acts they may be liable. All required insurance coverages shall be placed with carriers authorized to conduct business in the State of Maine by the Maine Bureau of Insurance.

9.3.1 The Contractor shall have Workers' Compensation insurance for all employees on the Project site in accordance with the requirements of the Workers' Compensation law of the State of Maine. Minimum acceptable limits for Employer's Liability are:

Bodily Injury by Accident.....$500,000
Bodily Injury by Disease.....$500,000 Each Employee
Bodily Injury by Disease.....$500,000 Policy Limit

9.3.2 The Contractor shall have Commercial General Liability insurance providing coverage for bodily injury and property damage liability for all hazards of the Project including premise and operations, products and completed operations, contractual, and personal injury liabilities. The policy shall include collapse and underground coverage as well as explosion coverage if explosion hazards exist. Aggregate limits shall apply on a location or project basis. Minimum acceptable limits are:

General aggregate limit.....$2,000,000
Products and completed operations aggregate $1,000,000
Each occurrence limit.....$1,000,000
Personal injury aggregate.....$1,000,000

9.3.3 The Contractor shall have Automobile Liability insurance against claims for bodily injury, death or property damage resulting from the maintenance, ownership or use of all owned, non-owned and hired automobiles, trucks and trailers. Minimum acceptable limit is:

Any one accident or loss $500,000

9.3.4 For the portion of a project which is new construction, the Contractor shall procure and maintain Builder's Risk insurance naming the Owner, Contractor, and any Subcontractor as insureds as their interest may appear. Covered causes of loss form shall be all Risks of Direct Physical Loss, endorsed to include flood, earthquake, transit and sprinkler leakage where sprinkler coverage is applicable. Unless specifically authorized in writing by the Owner, the limit of insurance shall not be less than the initial contract amount, for the portion of the project which is new construction, and coverage shall apply during the entire contract period and until the work is accepted by the Owner.

9.3.5 The Contractor shall have Owner's Protective Liability insurance for contract values $50,000 and above, naming the Owner as the Named Insured. Minimum acceptable limits are:

General aggregate limit.....$2,000,000
Each occurrence limit.....$1,000,000

10. Contract Bonds

10.1 When noted as required in the Bid Documents, the Contractor shall provide to the Owner a Performance Bond and a Payment Bond, or "contract bonds", upon execution of the contract. Each bond value shall be for the full amount of the contract and issued by a surety company authorized to do business in the State of Maine as approved by the Owner. The bonds shall be

executed on the forms furnished in the Bid Documents. The bonds shall allow for any subsequent additions or deductions of the contract.

10.2 The contract bonds shall continue in effect for one year after final acceptance of the 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.

11. Patents and Royalties

11.1 The Contractor shall, for all time, secure for the Owner the free and undisputed right to the use of any patented articles or methods used in the Work. The expense of defending any suits for infringement or alleged infringement of such patents shall be borne by the Contractor. Awards made regarding patent suits shall be paid by the Contractor. The Contractor shall hold the Owner harmless regarding patent suits that may arise due to installations made by the Contractor, and to any awards made as a result of such suits.

11.2 Any royalty payments related to the work done by the Contractor for the Project shall be borne by the Contractor. The Contractor shall hold the Owner harmless regarding any royalty payments that may arise due to installations made by the Contractor.

12. Surveys, Layout of Work

12.1 The Owner shall furnish all property surveys unless otherwise specified.

12.2 The Contractor is responsible for correctly staking out the Work on the site. The Contractor shall employ a competent surveyor to position all construction on the site. The surveyor shall run the axis lines, establish correct datum points and check each line and point on the site to insure their accuracy. All such lines and points shall be carefully preserved throughout the construction.

12.3 The Contractor shall lay out all work from dimensions given on the Drawings. The Contractor shall take measurements and verify dimensions of any existing work that affects the Work or to which the Work is to be fitted. The Contractor is solely responsible for the accuracy of all measurements. The Contractor shall verify all grades, lines, levels, elevations and dimensions shown on the Drawings and report any errors or inconsistencies to the Consultant prior to commencing work.

13. Record of Documents

13.1 The Contractor shall maintain one complete set of Contract Documents on the jobsite, in good order and current status, for access by the Owner and Consultant.

13.2 The Contractor shall maintain, continuously updated, complete records of Requests for Information, Architectural Supplemental Instructions (or equivalent), Information Bulletins, supplemental sketches, Change Order Proposals, Change Orders, Shop Drawings, testing reports, et cetera, for access by the Owner and Consultant.

14. Allowances

14.1 The Contract Price shall include all allowances described in the Contract Documents. The Contractor shall include all overhead and profit necessary to implement each allowance in their Contract Price.

14.2 The Contractor shall not be required to employ parties for allowance work against whom the Contractor has a reasonable objection. In such a case, the Contractor shall notify the Owner in writing of their position and shall propose an alternative party to complete the work of the allowance.

15. Shop Drawings

15.1 The Contractor shall administer Shop Drawings prepared by the Contractor, Subcontractors, suppliers or others to conform to the approved Schedule of the Work. The Contractor shall verify all field measurements, check and authorize all Shop Drawings and schedules required by the Work. The Contractor is the responsible party and contact for the Contractor's work as well as that of Subcontractors, suppliers or others who provide Shop Drawings.

15.2 The Consultant shall review and acknowledge Shop Drawings, with reasonable promptness, for general conformity with the design concept of the project and compliance with the information provided in the Contract Documents.

15.3 The Contractor shall provide monthly updated logs containing: requests for information, information bulletins, supplemental instructions, supplemental sketches, change order proposals, change orders, submittals, testing and deficiencies.

15.4 The Contractor shall make any corrections required by the Consultant, and shall submit a quantity of corrected copies as may be needed. The acceptance of Shop Drawings or schedules by the Consultant shall not relieve the Contractor from responsibility for deviations from Drawings and Specifications, unless the Contractor has called such deviations to the attention of the Consultant at the time of submission and secured the Consultant’s written approval. The acceptance of Shop Drawings or schedules by the Consultant does not relieve the Contractor from responsibility for errors in Shop Drawings or schedules.

16. Samples

16.1 The Contractor shall furnish for approval, with reasonable promptness, all samples as directed by the Consultant. The Consultant shall review and approve such samples, with reasonable promptness, for general conformity with the design concept of the project and compliance with the information provided in the Contract Documents. The subsequent work shall be in accord with the approved samples.

17. Substitutions

17.1 The Contractor shall furnish items and materials described in the Contract Documents. If the item or material specified describes a proprietary product, or uses the name of a manufacturer, the term “or approved equal” shall be implied, if it is not included in the text. The specific item or material specified establishes a minimum standard for the general design, level of quality, type, function, durability, efficiency, reliability, compatibility, warranty coverage, installation factors

and required maintenance. The Drawing or written Specification shall not be construed to exclude other manufacturers products of comparable design, quality, and efficiency.

17.2 The Contractor may submit detailed information about a proposed substitution to the Consultant for consideration. Particular models of items and particular materials which the Contractor asserts to be equal to the items and materials identified in the Contract Documents shall be allowed only with written approval by the Consultant. The request for substitution shall include a cost comparison and a reason or reasons for the substitution.

17.3 The Consultant may request additional information about the proposed substitution. The approval or rejection of a proposed substitution may be based on timeliness of the request, source of the information, the considerations of minimum standards described above, or other considerations. The Consultant should briefly state the rationale for the decision. The decision shall be considered final.

17.4 The duration of a substitution review process can not be the basis for a claim for delay in the Schedule of the Work.

18. Assignment of Contract

18.1 The Contractor shall not assign or sublet the contract as a whole without the written consent of the Owner. The Contractor shall not assign any money due to the Contractor without the written consent of the Owner.

19. Separate Contracts

19.1 The Owner reserves the right to create other contracts in connection with this Project using similar General Conditions. The Contractor shall allow the Owner's other contractors reasonable opportunity for the delivery and storage of materials and the execution of their work. The Contractor shall coordinate and properly connect the Work of all contractors.

19.2 The Contractor shall promptly report to the Consultant and Owner any apparent deficiencies in work of the Owner's other contractors that impacts the proper execution or results of the Contractor. The Contractor’s failure to observe or report any deficiencies constitutes an acceptance of the Owner's other contractors work as suitable for the interface of the Contractor’s work, except for latent deficiencies in the Owner's other contractors work.

19.3 Similarly, the Contractor shall promptly report to the Consultant and Owner any apparent deficiencies in their own work that would impact the proper execution or results of the Owner's other contractors.

19.4 The Contractor shall report to the Consultant and Owner any conflicts or claims for damages with the Owner's other contractors and settle such conflicts or claims for damages by mutual agreement or arbitration, if necessary, at no expense to the Owner.

19.5 In the event the Owner's other contractors sue the Owner regarding any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor, who shall defend such proceedings at the Contractor's expense. The Contractor shall pay or satisfy any judgment that may arise against the Owner, and pay all other costs incurred.

20. Subcontracts

20.1 The Contractor shall not subcontract any part of this contract without the written permission of the Owner.

20.2 The Contractor shall submit a complete list of named Subcontractors and material suppliers to the Consultant and Owner for approval by the Owner prior to commencing work. The Subcontractors named shall be reputable companies of recognized standing with a record of satisfactory work.

20.3 The Contractor shall not employ any Subcontractor or use any material until they have been approved, or where there is reason to believe the resulting work will not comply with the Contract Documents.

20.4 The Contractor, not the Owner, is as fully responsible for the acts and omissions of Subcontractors and of persons employed by them, as the Contractor is for the acts and omissions of persons directly or indirectly employed by the Contractor.

20.5 Neither the Contract Documents nor any Contractor-Subcontractor contract shall indicate, infer or create any direct contractual relationship between any Subcontractor and the Owner.

21. Contractor-Subcontractor Relationship

21.1 The Contractor shall be bound to the Subcontractor by all the obligations in the Contract Documents that bind the Contractor to the Owner.

21.2 The Contractor shall pay the Subcontractor, in proportion to the dollar value of the work completed and requisitioned by the Subcontractor, the approved dollar amount allowed to the Contractor no more than seven days after receipt of payment from the Owner.

21.3 The Contractor shall pay the Subcontractor accordingly if the Contract Documents or the subcontract provide for earlier or larger payments than described in the provision above.

21.4 The Contractor shall pay the Subcontractor for completed and requisitioned subcontract work, less retainage, no more than seven days after receipt of payment from the Owner for the Contractor's approved Requisition for Payment, even if the Consultant fails to certify a portion of the Requisition for Payment for a cause not the fault of the Subcontractor.

21.5 The Contractor shall not make a claim for liquidated damages or penalty for delay in any amount in excess of amounts that are specified by the subcontract.

21.6 The Contractor shall not make a claim for services rendered or materials furnished by the Subcontractor unless written notice is given by the Contractor to the Subcontractor within ten calendar days of the day in which the claim originated.

21.7 The Contractor shall give the Subcontractor an opportunity to present and to submit evidence in any progress conference or disputes involving subcontract work.

21.8 The Contractor shall pay the Subcontractor a just share of any fire insurance payment received by the Contractor.

21.9 The Subcontractor shall be bound to the Contractor by the terms of the Contract Documents and assumes toward the Contractor all the obligations and responsibilities that the Contractor, by those documents, assumes toward the Owner.

21.10 The Subcontractor shall submit applications for payment to the Contractor in such reasonable time as to enable the Contractor to apply for payment as specified.

21.11 The Subcontractor shall make any claims for extra cost, extensions of time or damages, to the Contractor in the manner provided in these General Conditions for like claims by the Contractor to the Owner, except that the time for the Subcontractor to make claims for extra cost is seven calendar days after the receipt of Consultant's instructions.

22. Supervision of the Work

22.1 During all stages of the Work the Contractor shall have a competent superintendent, with any necessary assistant superintendents, overseeing the project. The superintendent shall not be reassigned without the consent of the Owner unless a superintendent ceases to be employed by the Contractor due to unsatisfactory performance.

22.2 The superintendent represents the Contractor on the jobsite. Directives given by the Consultant or Owner to the superintendent shall be as binding as if given directly to the Contractor's main office. All important directives shall be confirmed in writing to the Contractor. The Consultant and Owner are not responsible for the acts or omissions of the superintendent or assistant superintendents.

22.3 The Contractor shall provide supervision of the Work equal to the industry's highest standard of care. The superintendent shall carefully study and compare all Contract Documents and promptly report any error, inconsistency or omission discovered to the Consultant. The Contractor may not necessarily be held liable for damages resulting directly from any error, inconsistency or omission in the Contract Documents or other instructions by the Consultant that was not revealed by the superintendent in a timely way.

23. Observation of the Work

23.1 The Contractor shall allow the Owner, the Consultant and the Bureau continuous access to the site for the purpose of observation of the progress of the work. All necessary safeguards and accommodations for such observations shall be provided by the Contractor.

23.2 The Contractor shall coordinate all required testing, approval or demonstration of the Work. The Contractor shall give sufficient notice to the appropriate parties of readiness for testing, inspection or examination.

23.3 The Contractor shall schedule inspections and obtain all required certificates of inspection for inspections by a party other than the Consultant.

23.4 The Consultant shall make all scheduled observations promptly, prior to the work being concealed or buried by the Contractor. If approval of the Work is required of the Consultant, the Contractor shall notify the Consultant of the construction schedule in this regard. Work concealed or buried prior to the Consultant's approval may need to be uncovered at the Contractor's expense.

23.5 The Consultant may order reexamination of questioned work, and, if so ordered, the work must be uncovered by the Contractor. If the work is found to conform to the Contract Documents, the Owner shall pay the expense of the reexamination and remedial work. If the work is found to not conform to the Contract Documents, the Contractor shall pay the expense, unless the defect in the work was caused by the Owner's Contractor, whose responsibility the reexamination expense becomes.

23.6 The Bureau shall periodically observe the Work during the course of construction and make recommendations to the Contractor or Consultant as necessary. Such recommendations shall be considered and implemented through the usual means for changes to the Work.

24. Consultant's Status

24.1 The Consultant represents the Owner during the construction period, and observes the work in progress on behalf of the Owner. The Consultant has authority to act on behalf of the Owner only to the extent expressly provided by the Contract Documents or otherwise demonstrated to the Contractor. The Consultant has authority to stop the work whenever such an action is necessary, in the Consultant's reasonable opinion, to ensure the proper execution of the contract.

24.2 The Consultant is the interpreter of the conditions of the contract and the judge of its performance. The Consultant shall favor neither the Owner nor the Contractor, but shall use the Consultant's powers under the contract to enforce faithful performance by both parties.

24.3 In the event of the termination of the Consultant's employment on the project prior to completion of the work, the Owner shall appoint a capable and reputable replacement. The status of the new Consultant relative to this contract shall be that of the former Consultant.

25. Management of the Premises

25.1 The Contractor shall place equipment and materials, and conduct activities on the premises in a manner that does not unreasonably hinder site circulation, environmental stability, or any long term effect. Likewise, the Consultant's directions shall not cause the use of premises to be impeded for the Contractor or Owner.

25.2 The Contractor shall not use the premises for any purpose other than that which is directly related to the scope of work. The Owner shall not use the premises for any purpose incompatible with the proposed work simultaneous to the work of the Contractor.

25.3 The Contractor shall enforce the Consultant's instructions regarding information posted on the premises such as signage and advertisements, as well as activities conducted on the premises such as fires, and smoking.

25.4 The Owner may occupy any part of the Project that is completed with the written consent of the Contractor, and without prejudice to any of the rights of the Owner or Contractor. Such use or occupancy shall not, in and of itself, be construed as a final acceptance of any work or materials.

26. Safety and Security of the Premises

26.1 The Contractor shall designate, and make known to the Consultant and the Owner, a safety officer whose duty is the prevention of accidents on the site.

26.2 The Contractor shall continuously maintain security on the premises and protect from unreasonable occasion of injury all people authorized to be on the job site. The Contractor shall also effectively protect the property and adjacent properties from damage or loss.

26.3 The Contractor shall take all necessary precautions to ensure the safety of workers and others on and adjacent to the site, abiding by applicable local, state and federal safety regulations. The Contractor shall erect and continuously maintain safeguards for the protection of workers and others, and shall post signs and other warnings regarding hazards associated with the construction process, such as protruding fasteners, moving equipment, trenches and holes, scaffolding, window, door or stair openings, and falling materials.

26.4 The Contractor shall restore the premises to conditions that existed prior to the start of the project at areas not intended to be altered according to the Contract Documents.

26.5 The Contractor shall protect existing utilities and exercise care working in the vicinity of utilities shown in the Drawings and Specifications or otherwise located by the Contractor.

26.6 The Contractor shall protect from damage existing trees and other significant plantings and landscape features of the site which will remain a permanent part of the site. If necessary or indicated in the Contract Documents, tree trunks shall be boxed and barriers erected to prevent damage to tree branches or roots.

26.7 The Contractor shall repair or replace damage to the Work caused by the Contractor's or Subcontractor's forces, including that which is reasonably protected, at the expense of the responsible party.

26.8 The Contractor shall not load, or allow to be loaded, any part of the Project with a force which imperils personal or structural safety. The Consultant may consult with the Contractor on such means and methods of construction, however, the ultimate responsibility lies with the Contractor.

26.9 The Contractor shall not jeopardize any work in place with subsequent construction activities such as blasting, drilling, excavating, cutting, patching or altering work. The Consultant must approve altering any structural components of the project. The Contractor shall supervise all construction activities carried out by others on site to ensure that the work is neatly done and in a manner that will not endanger the structure or the component parts.

26.10 The Contractor may act with their sole discretion in emergency situations that potentially effect health, life or serious damage to the premises or adjacent properties, to prevent such potential loss or injury. The Contractor may negotiate with the Owner for compensation for expenses due to such emergency work.

26.11 The Contractor and Subcontractors shall have no responsibility for the identification, discovery, presence, handling, removal or disposal of, or exposure of persons to, hazardous materials in any form at the project site. The Contractor shall avoid disruption of any hazardous materials or toxic substances at the project site and promptly notify the Owner in writing on the occasion of such a discovery.

26.12 The Contractor shall keep the premises free of any unsafe accumulation of waste materials caused by the work. The Contractor shall regularly keep the spaces "broom clean". See the Close-out of the Work provisions of this section regarding cleaning at the completion of the project.

27. Changes in the Work

27.1 The Contractor shall not proceed with extra work without an approved Change Order or Construction Change Directive. A Change Order which has been properly signed by all parties shall become a part of the contract.

27.2 A Change Order is the usual document for directing changes in the Work. In certain circumstances, however, the Owner may utilize a Construction Change Directive to direct the Contractor to perform changes in the Work that are generally consistent with the scope of the project. The Owner shall use a Construction Change Directive only when the normal process for approving changes to the Work has failed to the detriment of the Project, or when agreement on the terms of a Change Order cannot be met, or when an urgent situation requires, in the Owner's judgment, prompt action by the Contractor.

27.3 The Consultant shall prepare the Construction Change Directive representing a complete scope of work, with proposed Contract Price and Contract Time revisions, if any, clearly stated.

27.4 The Contractor shall promptly carry out a Construction Change Directive which has been signed by the Owner and the Consultant. Work thus completed by the Contractor constitutes the basis for a Change Order. Changes in the Contract Price and Contract Time shall be as defined in the Construction Change Directive unless subsequently negotiated with some other terms.

27.5 The method of determining the dollar value of extra work shall be by:
- .1 an estimate of the Contractor accepted by Owner as a lump sum, or
- .2 unit prices named in the contract or subsequently agreed upon, or
- .3 cost plus a designated percentage, or
- .4 cost plus a fixed fee.

27.6 The Contractor shall determine the dollar value of the extra work for both the lump sum and cost plus designated percentage methods so as not to exceed the following rates. The rates include all overhead and profit expenses.
- .1 Contractor - for any work performed by the Contractor's own forces, up to 20% of the cost;
- .2 Subcontractor - for work performed by Subcontractor's own forces, up to 20% of the cost;
- .3 Contractor - for work performed by Contractor's Subcontractor, up to 10% of the amount due the Subcontractor.

27.7 The Contractor shall keep and provide records as needed or directed for the cost plus designated percentage method. The Consultant shall review and certify the appropriate amount which

includes the Contractor's overhead and profit. The Owner shall make payments based on the Consultant's certificate.

27.8 Cost reflected in Change Orders shall be limited to the following: cost of materials, cost of delivery, cost of labor (including Social Security, pension, Workers' Compensation insurance, and unemployment insurance), and cost of rental of power tools and equipment. Labor cost may include a pro-ratio share of a foreman's time only in the case of an extension of contract time granted due to the Change Order.

27.9 Overhead reflected in Change Orders shall be limited to the following: bond premium, supervision, wages of clerks, time keepers, and watchmen, small tools, incidental expenses, general office expenses, and all other overhead expenses directly related to the Change Order.

27.10 The Contractor shall provide credit to the Owner for labor, materials, equipment and other costs but not overhead and profit expenses for those Change Order items that result in a net value of credit to the contract.

27.11 The Owner may change the scope of work of the Project without invalidating the contract. The Owner shall notify the Contractor of a change of the scope of work for the Owner's Contractors, which may affect the work of this Contractor, without invalidating the contract. Change Orders for extension of the time caused by such changes shall be developed at the time of directing the change in scope of work.

27.12 The Consultant may order minor changes in the Work, not involving extra cost, which is consistent with the intent of the design or project.

27.13 The Contractor shall immediately give written notification to the Consultant of latent conditions discovered at the site which materially differ from those represented in the Drawings or Specifications, and which may eventually result in a change in the scope of work. The Contractor shall suspend work until receiving direction from the Consultant. The Consultant shall promptly investigate the conditions and respond to the Contractor's notice with direction that avoids any unnecessary delay of the Work. The Consultant shall determine if the discovered conditions warrant a Change Order.

27.14 The Contractor shall, within ten calendar days of receipt of the information, give written notification to the Consultant if the Contractor claims that instructions by the Consultant will constitute extra cost not accounted for by Change Order or otherwise under the contract. The Consultant shall promptly respond to the Contractor's notice with direction that avoids any unnecessary delay of the Work. The Consultant shall determine if the Contractor's claim warrants a Change Order.

28. Correction of the Work

28.1 The Contractor shall promptly remove from the premises all work the Consultant declares is non-conforming to the contract. The Contractor shall replace the work properly at no expense to the Owner. The Contractor is also responsible for the expenses of others whose work was damaged or destroyed by such remedial work.

28.2 The Owner may elect to remove non-conforming work if it is not removed by the Contractor within a reasonable time, that time defined in a written notice from the Consultant. The Owner may elect to store removed non-conforming work not removed by the Contractor at the Contractor's expense. The Owner may, with ten days written notice, dispose of materials which the Contractor does not remove. The Owner may sell the materials and apply the net proceeds, after deducting all expenses, to the costs that should have been borne by the Contractor.

28.3 The Contractor shall remedy any defects due to faulty materials or workmanship and pay for any related damage to other work which appears within a period of one year from the date of substantial completion, and in accord with the terms of any guarantees provided in the contract. The Owner shall promptly give notice of observed defects to the Contractor and Consultant. The Consultant shall determine the status of all claimed defects. The Contractor shall perform all remedial work without unjustifiable delay in either the initial response or the corrective action.

28.4 The Consultant may authorize, after a reasonable notification to the Contractor, an equitable deduction from the contract amount in lieu of the Contractor correcting non-conforming or defective work.

29. Owner's Right to do Work

29.1 The Owner may, using other contractors, correct deficiencies attributable to the Contractor, or complete unfinished work. Such action shall take place only after giving the Contractor three days written notice, and provided the Consultant approves of the proposed course of action as an appropriate remedy. The Owner may then deduct the cost of the remedial work from the amount due the Contractor.

29.2 The Owner may act with their sole discretion when the Contractor is unable to take action in emergency situations that potentially effect health, life or serious damage to the premises or adjacent properties, to prevent such potential loss or injury. The Owner shall inform the Contractor of the emergency work performed, particularly where it may affect the work of the Contractor.

30. Termination of Contract and Stop Work Action

30.1 The Owner may, owing to a certificate of the Consultant indicating that sufficient cause exists to justify such action, without prejudice to any other right or remedy and after giving the Contractor and the Contractor’s surety seven days written notice, terminate the employment of the Contractor. At that time the Owner may take possession of the premises and of all materials,

tools and appliances on the premises and finish the work by whatever method the Owner may deem expedient. Cause for such action by the Owner includes:

.1 the contractor is adjudged bankrupt, or makes a general assignment for the benefit of its creditors, or

.2 a receiver is appointed due to the Contractor's insolvency, or

.3 the Contractor persistently or repeatedly refuses or fails to provide enough properly skilled workers or proper materials, or

.4 the Contractor fails to make prompt payment to Subcontractors or suppliers of materials or labor, or

.5 the Contractor persistently disregards laws, ordinances or the instructions of the Consultant, or is otherwise found guilty of a substantial violation of a provision of the Contract Documents.

30.2 The Contractor is not entitled, as a consequence of the termination of the employment of the Contractor as described above, to receive any further payment until the Work is finished. If the unpaid balance of the contract amount exceeds the expense of finishing the Work, including compensation for additional architectural, managerial and administrative services, such balance shall be paid to the Contractor. If the expense of finishing the Work exceeds the unpaid balance, the Contractor shall pay the difference to the Owner. The Consultant shall certify the expense incurred by the Contractor's default. This obligation for payment shall continue to exist after termination of the contract.

30.3 The Contractor may, if the Work is stopped by order of any court or other public authority for a period of thirty consecutive days, and through no act or fault of the Contractor or of anyone employed by the Contractor, with seven days written notice to the Owner and the Consultant, terminate this contract. The Contractor may then recover from the Owner payment for all work executed, any proven loss and reasonable profit and damage.

30.4 The Contractor may, if the Consultant fails to issue a certificate for payment within seven days after the Contractor's formal request for payment, through no fault of the Contractor, or if the Owner fails to pay to the Contractor within 30 days after submission of any sum certified by the Consultant, with seven days written notice to the Owner and the Consultant, stop the Work or terminate this Contract.

31. Delays and Extension of Time

31.1 The completion date of the contract shall be extended if the work is delayed by changes ordered in the work which have approved time extensions, or by an act or neglect of the Owner, the Consultant, or the Owner's Contractor, or by strikes, lockouts, fire, flooding, unusual delay in transportation, unavoidable casualties, or by other causes beyond the Contractor's control. The Consultant shall determine the status of all claimed causes.

31.2 The contract shall not be extended for delay occurring more than seven calendar days before the Contractor's claim made in writing to the Consultant. In case of a continuing cause of delay, only one claim is necessary.

31.3 The contract shall not be extended due to failure of the Consultant to furnish drawings if no schedule or agreement is made between the Contractor and the Consultant indicating the dates

which drawings shall be furnished and fourteen calendar days has passed after said date for such drawings.

31.4 This article does not exclude the recovery of damages for delay by either party under other provisions in the Contract Document.

32. Payments to the Contractor

32.1 As noted under *Preconstruction Conference* in this section, the Contractor shall submit a Schedule of Values form, before the first application for payment, for approval by the Owner and Consultant. The Consultant may direct the Contractor to provide evidence that supports the correctness of the form. The approved Schedule of Values shall be used as a basis for payments.

32.2 The Contractor shall submit an application for each payment ("Requisition for Payment") on a form approved by the Owner and Consultant. The Consultant may require receipts or other documents showing the Contractor's payments for materials and labor, including payments to Subcontractors.

32.3 The Contractor shall submit Requisitions for Payment as the work progresses not more frequently than once each month, unless the Owner approves a more frequent interval due to unusual circumstances. The Requisition for Payment is based on the proportionate quantities of the various classes of work completed or incorporated in the Work, in agreement with the actual progress of the Work and the dollar value indicated in the Schedule of Values.

32.4 The Consultant shall verify and certify each Requisition for Payment which appears to be complete and correct prior to payment being made by the Owner. The Consultant may certify an appropriate amount for materials not incorporated in the Work which have been delivered and suitably stored at the site. The Contractor shall submit bills of sale, insurance certificates, or other such documents that will adequately protect the Owner's interests prior to payments being certified.

32.5 In the event any materials delivered but not yet incorporated in the Work have been included in a certified Requisition for Payment with payment made, and said materials thereafter are damaged, deteriorated or destroyed, or for any reason whatsoever become unsuitable or unavailable for use in the Work, the full amount previously allowed shall be deducted from subsequent payments unless the Contractor satisfactorily replaces said material.

32.6 The Contractor may request certification of an appropriate dollar amount for materials not incorporated in the Work which have been delivered and suitably stored away from the site. The Contractor shall submit bills of sale, insurance certificates, right-of-entry documents or other such documents that will adequately protect the Owner's interests. The Consultant shall determine if the Contractor's documentation for the materials is complete and specifically designated for the Project. The Owner may allow certification of such payments.

32.7 Subcontractors may request, and shall receive from the Consultant, copies of approved Requisitions for Payment showing the amounts certified in the Schedule of Values.

32.8 Certified Requisitions for Payment, payments made to the Contractor, or partial or entire occupancy of the project by the Owner shall not constitute an acceptance of any work that does

not conform to the Contract Documents. The making and acceptance of the final payment constitutes a waiver of all claims by the Owner, other than those arising from unsettled liens, from faulty work or materials appearing within one year from final payment or from requirements of the Drawings and Specifications, and of all claims by the Contractor, except those previously made and still unsettled.

33. Payments Withheld

33.1 The Owner shall retain five percent of each payment due the Contractor as part security for the fulfillment of the contract by the Contractor. The Owner may make payment of a portion of this "retainage" to the Contractor temporarily or permanently during the progress of the Work. The Owner may thereafter withhold further payments until the full amount of the five percent is reestablished. The Contractor may deposit with the Maine State Treasurer certain securities in place of retainage amounts due according to Maine Statute (5 M.R.S. §1746).

33.2 The Consultant may withhold or nullify the whole or a portion of any Requisitions for Payment submitted by the Contractor in the amount that may be necessary, in his reasonable opinion, to protect the Owner from loss due to any of the following:

.1 defective work not remedied;
.2 claims filed or reasonable evidence indicating probable filing of claims;
.3 failure to make payments properly to Subcontractors or suppliers;
.4 a reasonable doubt that the contract can be completed for the balance then unpaid;
.5 liability for damage to another contractor.

The Owner shall make payment to the Contractor, in the amount withheld, when the above circumstances are removed.

34. Liens

34.1 The Contractor shall deliver to the Owner a complete release of all liens arising out of this contract before the final payment or any part of the retainage payment is released. The Contractor shall provide with the release of liens an affidavit asserting each release includes all labor and materials for which a lien could be filed. Alternately, the Contractor, in the event any Subcontractor or supplier refuses to furnish a release of lien in full, may furnish a bond satisfactory to the Owner, to indemnify the Owner against any lien.

34.2 In the event any lien remains unsatisfied after all payments to the Contractor are made by the Owner, the Contractor shall refund to the Owner all money that the latter may be compelled to pay in discharging such lien, including all cost and reasonable attorney's fees.

35. Workmanship

35.1 The Contractor shall provide materials, equipment, and installed work equal to or better than the quality specified in the Contract Documents and approved in submittal and sample. The installation methods shall be of the highest standards, and the best obtainable from the respective trades. The Consultant's decision on the quality of work shall be final.

35.2 The Contractor shall know local labor conditions for skilled and unskilled labor in order to apply the labor appropriately to the Work. All labor shall be performed by individuals well skilled in their respective trades.

35.3 The Contractor shall perform all cutting, fitting, patching and placing of work in such a manner to allow subsequent work to fit properly, whether that be by the Contractor, the Owner's Contractors or others. The Owner and Consultant may advise the Contractor regarding such subsequent work. Notwithstanding the notification or knowledge of such subsequent work, the Contractor may be directed to comply with this standard of compatible construction by the Consultant at the Contractor's expense.

35.4 The Contractor shall request clarification or revision of any design work by the Consultant, prior to commencing that work, in a circumstance where the Contractor believes the work cannot feasibly be completed at the highest quality, or as indicated in the Contract Documents. The Consultant shall respond to such requests in a timely way, providing clarifying information, a feasible revision, or instruction allowing a reduced quality of work. The Contractor shall follow the direction of the Consultant regarding the required request for information.

35.5 The Contractor shall guarantee the Work against any defects in workmanship and materials for a period of one year commencing with the date of the Certificate of Substantial Completion, unless specified otherwise for specific elements of the project. The Work may also be subdivided in mutually agreed upon components, each defined by a separate Certificate of Substantial Completion.

36. Close-out of the Work

36.1 The Contractor shall remove from the premises all waste materials caused by the work. The Contractor shall make the spaces “broom clean” unless a more thorough cleaning is specified. The Contractor shall clean all windows and glass immediately prior to the final inspection, unless otherwise directed.

36.2 The Owner may conduct the cleaning of the premises where the Contractor, duly notified by the Consultant, fails to adequately complete the task. The expense of this cleaning may be deducted from the sum due to the Contractor.

36.3 The Contractor shall participate in all final inspections and acknowledge the documentation of unsatisfactory work, customarily called the "punch list", to be corrected by the Contractor. The Consultant shall document the successful completion of the Work in a dated Certificate of Substantial Completion, to be signed by Owner, Consultant, and Contractor.

36.4 The Contractor shall not call for final inspection of any portion of the Work that is not completely and permanently installed. The Contractor may be found liable for the expenses of individuals called to final inspection meetings prematurely.

36.5 The Contractor and all major Subcontractors shall participate in the end-of-warranty-period conference, typically scheduled close to one year after the Substantial Completion date.

37. Date of Completion and Liquidated Damages

37.1 The Contractor may make a written request to the Owner for an extension or reduction of time, if necessary. The request shall include the reasons the Contractor believes justifies the proposed completion date. The Owner may grant the revision of the contract completion date if the Work was delayed due to conditions beyond the control and the responsibility of the Contractor. The Contractor shall not conduct unauthorized accelerated work or file delay claims to recover alleged damages for unauthorized early completion.

37.2 The Contractor shall vigorously pursue the completion of the Work and notify the Owner of any factors that have, may, or will affect the approved Schedule of the Work. The Contractor may be found responsible for expenses of the Owner or Consultant if the Contractor fails to make notification of project delays.

37.3 The Project is planned to be done in an orderly fashion which allows for an iterative submittal review process, construction administration including minor changes in the Work and some bad weather. The Contractor shall not file delay claims to recover alleged damages on work the Consultant determines has followed the expected rate of progress.

37.4 The Consultant shall prepare the Certificate of Substantial Completion which, when signed by the Owner and the Contractor, documents the date of Substantial Completion of the Work or a designated portion of the Work. The Owner shall not consider the issuance of a Certificate of Occupancy by an outside authority a prerequisite for Substantial Completion if the Certificate of Occupancy cannot be obtained due to factors beyond the Contractor's control.

37.5 Liquidated Damages may be deducted from the sum due to the Contractor for each calendar day that the Work remains uncompleted after the completion date specified in the Contract or an approved amended completion date. The dollar amount per day shall be calculated using the Schedule of Liquidated Damages table shown below.

If the original contract amount is:	The per day Liquidated Damages shall be:
Less than $100,000	$250
$100,000 to less than $2,000,000	$750
$2,000,000 to less than $10,000,000	$1,500
$10,000,000 and greater	$1,500 plus $250 for each $2,000,000 over $10,000,000

38. Dispute Resolution

38.1 Mediation

38.1.1 A dispute between the parties which arises under this Contract which cannot be resolved through informal negotiation, shall be submitted to a neutral mediator jointly selected by the parties.

38.1.2 Either party may file suit before or during mediation if the party, in good faith, deems it to be necessary to avoid losing the right to sue due to a statute of limitations. If suit is filed before good faith mediation efforts are completed, the party filing suit shall agree to stay all proceedings in the lawsuit pending completion of the mediation process, provided such stay is without prejudice.

38.1.3 In any mediation between the Owner and the Consultant, the Owner has the right to consolidate related claims between Owner and Contractor.

38.2 Arbitration

38.2.1 If the dispute is not resolved through mediation, the dispute shall be settled by arbitration. The arbitration shall be conducted before a panel of three arbitrators. Each party shall select one arbitrator; the third arbitrator shall be appointed by the arbitrators selected by the parties. The arbitration shall be conducted in accordance with the Maine Uniform Arbitration Act (MUAA), except as otherwise provided in this section.

38.2.2 The decision of the arbitrators shall be final and binding upon all parties. The decision may be entered in court as provided in the MUAA.

38.2.3 The costs of the arbitration, including the arbitrators' fees shall be borne equally by the parties to the arbitration, unless the arbitrator orders otherwise.

38.2.4 In any arbitration between the Owner and the Consultant, the Owner has the right to consolidate related claims between Owner and Contractor.

00 73 46
Wage Determination Schedule

PART 1- GENERAL

1.1 Related Documents

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

1.2 Summary

A. This Section includes the wage determination requirements for Contractors as issued by the State of Maine Department of Labor Bureau of Labor Standards or the United States Department of Labor.

1.3 Requirements

A. Conform to the wage determination schedule for this project which is shown on the following page.

PART 2 - PRODUCTS (not used)

PART 3 - EXECUTION (not used)

00 73 46
Wage Determination Schedule

End of Section 00 73 46

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.

2024 Fair Minimum Wage Rates -- Building 2 Kennebec County (other than 1 or 2 family homes)

Occupational Title	Minimum Wage	Minimum Benefit	Total
Brickmasons And Blockmasons	$42.55	$28.02	$70.57
Bulldozer Operator	$31.50	$7.53	$39.03
Carpenter	$29.68	$12.51	$42.19
Cement Masons And Concrete Finisher	$24.13	$4.15	$28.28
Commercial Divers	$30.00	$4.62	$34.62
Construction And Maintenance Painters	$24.00	$0.00	$24.00
Construction Laborer	$22.67	$2.80	$25.47
Crane And Tower Operators	$38.50	$10.43	$48.93
Crushing Grinding And Polishing Machine Operators	$23.00	$4.94	$27.94
Drywall And Ceiling Tile Installers	$26.20	$10.62	$36.82
Earth Drillers - Except Oil And Gas	$21.61	$5.53	$27.14
Electrical Power - Line Installer And Repairers	$38.93	$8.91	$47.84
Electricians	$38.51	$6.00	$44.51
Elevator Installers And Repairers	$68.38	$45.29	$113.67
Excavating And Loading Machine And Dragline Operators	$54.28	$34.31	$88.59
Excavator Operator	$28.00	$1.67	$29.67
Fence Erectors	$26.75	$4.05	$30.80
Flaggers	$20.00	$0.38	$20.38
Floor Layers - Except Carpet/Wood/Hard Tiles	$27.25	$6.59	$33.84
Glaziers	$37.00	$6.60	$43.60
Grader/Scraper Operator	$23.00	$1.99	$24.99
Hazardous Materials Removal Workers	$21.00	$1.99	$22.99
Heating And Air Conditioning And Refrigeration Mechanics And Installers	$32.00	$5.60	$37.60
Heavy And Tractor - Trailer Truck Drivers	$22.75	$1.04	$23.79
Highway Maintenance Workers	$20.00	$0.00	$20.00
Industrial Machinery Mechanics	$31.25	$1.01	$32.26
Industrial Truck And Tractor Operators	$29.25	$4.06	$33.31
Insulation Worker - Mechanical	$23.00	$3.59	$26.59
Ironworker - Ornamental	$30.83	$24.97	$55.80
Light Truck Or Delivery Services Drivers	$23.34	$1.67	$25.01
Millwrights	$33.75	$8.78	$42.53
Mobile Heavy Equipment Mechanics - Except Engines	$27.75	$4.89	$32.64
Operating Engineers And Other Equipment Operators	$24.00	$2.38	$26.38
Paver Operator	$27.03	$6.49	$33.52
Pile-Driver Operators	$32.75	$1.95	$34.70
Pipelayers	$28.50	$4.89	$33.39
Plumbers Pipe Fitters And Steamfitters	$29.50	$5.48	$34.98
Pump Operators - Except Wellhead Pumpers	$31.49	$32.08	$63.57
Radio Cellular And Tower Equipment Installers	$26.00	$3.77	$29.77
Reclaimer Operator	$27.03	$7.68	$34.71
Reinforcing Iron And Rebar Workers	$30.83	$24.97	$55.80
Riggers	$29.25	$7.79	$37.04
Roofers	$23.75	$3.11	$26.86
Screed/Wheelman	$29.25	$4.94	$34.19
Sheet Metal Workers	$25.00	$5.35	$30.35
Structural Iron And Steel Workers	$30.08	$7.61	$37.69
Tapers	$32.63	$0.00	$32.63
Telecommunications Equipment Installers And Repairers - Except Line Installers	$28.00	$6.35	$34.35
Telecommunications Line Installers And Repairers	$31.03	$18.73	$49.76
Tile And Marble Setters	$27.75	$6.73	$34.48

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: 12-31-2024
Revision Date: 2-1-2024

SUMMARY OF WORK

SECTION 01 10 00

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

In general, the Contractor shall supply all labor, materials, 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. The work includes, but is not limited to, the following items:

A. This building is listed on the National Register of Historic Places. The contractor is to install all roofing materials and related accessory construction in accordance with the Contract Documents. Any deviations from the Contract Documents are to be reviewed with the Owner and Engineer.

B. The building is currently partially abandoned and vacant with most utilities removed, capped or shut down. Refer to Temporary Facilities – Section 01 50 00 for additional information.

C. The building is monitored by security and requires key card access. The contractors' employees and sub-contractors require access must apply for a access card which will require a background check.

D. Supply all temporary shoring, lighting, barricades, signage, and protection necessary to protect the building areas, building systems, and building patrons and public. Maintain such protection for the complete duration of the project.

E. Supply all 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.

F. Provide temporary fencing around set-up and storage locations. Set-up and lay down areas should be sufficient for all sub-trades to have adequate area to store materials and equipment. Set-up and lay down areas must be within areas designated by the Owner.

G. Complete all associated work in accordance with the project specifications and Contract Drawings. Coordinate the work with the Owner.

H. The Contractor shall provide all lifts, cranes, and equipment necessary to access and perform the work.

I. Coordinate the disconnection, removal, relocation, and reinstallation of mechanical units, conduits, ductwork, equipment, etc.

J. At Roof Areas A, B, D, and E1 remove and dispose of existing roofing materials, including but not limited to, elastomeric membrane, insulation, and associated components down to the existing wood deck to remain.

K. At Roof Area E2 remove and dispose of existing roofing materials, including but not limited to, rolled asphalt roofing, fiberboard, insulation, and associated components down to the existing wood deck to remain.

L. Remove and dispose of associated roof flashings and components, as indicated in the Contract Drawings.

M. If encountered, remove and replace locations of deteriorated wood decking under Allowance scope of work. There are no known quantities indicated in the Contract Drawings. Review quantities to be replaced with the Owner and Engineer. The contractor shall carry an allowance for an additional quantity of deteriorated wood decking to be replaced as part of the base bid contract. Additional quantities to be carried are to be as indicated in the allowance schedule within the Contract Documents. Refer to section 01 21 00 - Allowance for quantities of deteriorated wood decking to be replaced as part of the base bid contract.

N. If encountered, remove and replace deteriorated exterior wood trim as required in a configuration to match existing. There are no known quantities of deteriorated wood trim indicated in the Contract Drawings. Review quantities to be replaced with the Owner and Engineer prior to performing the work. The contractor shall carry an allowance for an additional quantity of wood trim to be replaced as part of the base bid contract. Additional quantities to be carried are to be as indicated in the allowance schedule within the Contract Documents. Refer to section 01 21 00 – Allowance.

O. Remove existing and 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.

P. Install new adhered single-ply elastomeric roof system including, but not limited to, elastomeric roof membrane, coverboard, insulation, air/vapor retarder, baseboard and associated components over existing wood deck at Roof Areas A, B, E1 and E2 as indicated in the Contract Documents.

Q. Install new adhered single-ply elastomeric roof system including, but not limited to, elastomeric roof membrane, baseboard, and associated components over existing wood deck at Roof Area D. New closed cell spray foam insulation is to be installed within existing wood rafters as indicated in the Contract Documents. Remove interior finishes to access wood rafters.

R. Install tapered insulation at locations indicated in the Contract Documents. Crickets are to be provided as required to shed water towards drains, gutter and downspout locations.

S. Remove existing roof drain bowl assembly and install new strainer, clamping rings, clamps, extenders, and any other accessories at locations and as indicated in the Contract Documents.

T. Install new gutters and downspouts at locations and as indicated on the Contract Drawings.

U. Install new vent-pipe flashing and vent pipe extensions with no-hub connections as indicated in the Contract Documents.

V. Install new sheet metal counterflashing at existing throughwall and reglet flashing locations as indicated in the Documents.

W. Provide membrane manufacturer's walkway pads at locations and as designated in the Contract Documents.

X. Remove existing wood roof access door and replace with new, hollow metal roof access door and frame. New door to match existing size and configuration.

Y. Remove and replace existing skylights at Roof Area E1.

Z. Remove and replace deteriorated slate shingles at locations and as indicated in the Contract Documents. Refer to section 01 21 00 - Allowance for quantities of additional slate shingle repairs to be carried as part of the base bid contract.

AA. Clean and restore all areas affected by the work, including the site, to the satisfaction of the Owner.

1.2 HAZARDOUS MATERIALS

A. The contractor is hereby made aware that asbestos containing materials are anticipated to be encountered on this project. Asbestos containing roofing sealant was identified in connection with the existing elastomeric roof membrane at Roof Area B. The contractor shall conform to all State and Local guidelines for hazardous materials removal.

1. If encountered during construction, for asbestos removal, the Contractor shall comply with the National Emission Standard for Hazardous Air Pollutants (NESHAP) regulation published in the Federal Register under 40 CFR part 61, sub-part M. In addition to these regulations, the Contractor shall comply with OSHA Regulations (29 CFR Parts 1910 et. al - Occupational Exposure to Asbestos; Final Rule), and all other State and Local guidelines regarding asbestos-containing material removal and disposal.
2. If encountered during construction, abatement of the lead-based paint shall be performed by the Contractor in strict accordance with Local, State and Federal Laws. This includes, but is not limited to, OSHA 1926.62 work practices such as respiratory protection, personal sampling, training and medical testing for the lead abatement, and RCRA-TCLP testing requirements for lead waste.

3. The Contractor will be required to notify the Department of Environmental Protection (DEP) of asbestos and lead removal at the site a minimum of ten (10) working days prior to performing the removal operations. Copies of this notification must be submitted to the Owner and Engineer and posted at the site prior to performing any work.
4. The Contractor shall provide approved containers and hauling for disposal of hazardous materials. The Contractor shall properly dispose of hazardous materials in these approved containers.
5. Please refer to Ransom Consulting LLC (Ransom)'s Hazardous Building Materials Inventory Report attached to this Summary of Work section for additional information.

1.3 PROJECT CONDITIONS

A. Contractor to coordinate and strictly follow the Owner's requirements for construction, including mockup installation, interior access and protection requirements. Contractor to obtain a copy from the Owner.

B. Contractor to coordinate the installation of new roof systems with sheet metal throughwall flashings installed under a sperate contract. Damage to throughwall flashing during roof replacement operations will result in the Contractor needing to remove and replace damaged throughwall flashing and associated components at no additional cost to the Owner.

C. The Contractor will be required to provide their own fall arrest system as required to access and work on the building, as no arrest systems are currently in place.

D. Provide walk through overhead protection where work areas are above doors, walkways, or sidewalks in accordance with OSHA.

E. The Contractor shall comply with all requirements of the Owner regarding temporary protection, staging and use of the site.

F. All existing items including windows, doors, building, plant life and site features, including but not limited to, pavement, lawns, sidewalks, frames, glazing, flashings, sealants, and trim shall be protected from the effects of all new work. Any damages to existing to remain items resulting from construction will be repaired/replaced by the Contractor at no additional cost to the Owner.

G. All temporary protection shall be properly secured and able to withstand all perils of weather and use. The contractor to protect the building and grounds.

H. The Contractor shall supply, install and maintain all barriers; protection or warning lines; lights and lighting; and personnel as required to support the structure, fixtures and facilities affected by the work, and to segregate the work area(s) from pedestrian and/or vehicular traffic, as applicable, as well as to prevent damage to the building, its occupants and the surrounding site elements as required. \ All applicable OSHA and D.L.I. requirement shall be strictly followed by the Contractor at all times during

the performance of the work under this Contract. Refer to Section 01 50 00 - Temporary Facilities for additional information.

I. The Contractor shall schedule and execute all work without exposing the interior of the buildings to the effects of weather. Protect the buildings and their occupants and users against such risks, at all times during the course of the work hereunder. All work/weather related damage shall be repaired/replaced to the satisfaction of the Owner at no additional cost to the Owner.

J. The Contractor shall conform to all requirements of this Specification as well as those of all manufacturers of materials used in performing the work hereunder.

K. All materials and workmanship shall be of the best quality and the highest standard of construction practice. Refer to the requirements of materials manufacturers and the specifications for handling and installation of all materials used in the work under this Contract.

L. Protect the buildings and site and any other areas not included in the scope of work. The Contractor shall replace or repair all damage to the buildings or site elements because of the performance of the work hereunder to the satisfaction of the Owner at no additional cost to the Owner.

M. The contractor shall provide protection for existing roof membrane and other roof top equipment, fenestration, penetrations, and similar items to protect from damage. Items damaged as a result of the work shall be repaired or replaced by the Contractor to the satisfaction of, and at no additional cost to, the Owner.

N. Supply all labor, vacuums, tools, appliances, shoring, supports or other items required to properly support, elevate and protect fixtures, equipment, and facilities affected by the work and to properly install the work.

O. At the end of each workday, the Contractor shall confirm and make the site safe and secure to all public access to the building’s interior.

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

Q. Remove only as much existing construction as can be completely replaced and made weathertight by the end of each workday including all flashing work. Install temporary barriers during all work breaks as required to protect the public and the work.

R. A disposal plan, materials delivery and storage plan shall be submitted by the Contractor (for Owner and Engineer review and approval) outlining all methods and techniques to be used in the transportation, storage and delivery of debris and materials at the site.

S. Supply all necessary disposal facilities, transportation and labor in connection therewith as necessary to legally dispose of all demolished materials, dirt and debris off-site. The Contractor shall obtain all permits required to transport and dispose of all materials rubbish and debris in strict compliance with all legal requirements.

T. Any open ducts, grills, thermostats, electric boxes or similar fixtures and/or items which could be soiled or adversely affected by the work shall be masked, protected and cleaned as necessary by the Contractor at no additional cost to the Owner.

U. Provide an adequate number of skilled workers who are trained and experienced in the necessary crafts and are completely familiar with the specified requirements and the methods needed for proper performance of the work of each trade.

V. The Contractor shall cooperate, coordinate, and work in harmony with all Contractors working at the site during the course of work hereunder.

W. Upon completion of the work, all temporary protection installed by the Contractor shall be removed and areas shall be cleaned to the satisfaction of the Owner.

1.4 SUBMITTALS

A. Emergency Response Contacts
B. Project Contact Directory
C. Construction Schedule
D. Schedule of Values
E. Safety Plan
F. Material Data Sheets (MDS)
G. Safety Data Sheets (SDS)
H. Refer to technical specification sections for material submittals.

1.5 PRE-CONSTRUCTION CONFERENCE

A. A Preconstruction Conference will be held with the Owner, Engineer, Contractor and all involved trades to discuss all aspects of the project. The Contractor's foreman or field representative will attend this Conference. The foreman must be English-speaking. The conference will not be held until all shop drawings and submittals have been received and reviewed by the Owner.

B. The Owner shall reserve the right to require an alternate Superintendent and/or Foreman.

C. Delivery of materials and commencement of construction shall not proceed until the preconstruction conference is held. Delays in obtaining a complete set of submittals shall not extend the Contracted completion date.

1.6 REFERENCES

A. Applicable publications: Publications listed herein form a part of the Specification to the extent referenced and are indicated in the text by basic designation only.

Applicable publications referenced shall be those that were issued and in use at the time of the Bid Submission.

1.7 EMERGENCY RESPONSE

A. The Contractor shall provide the Owner with after-hours (twenty-four hour [24 hr.]), emergency telephone numbers of the Contractor's Superintendent and Foreman.

B. The Contractor must respond to emergency situations or calls within two hours (2 hrs.).

1.8 CONSTRUCTION SCHEDULE

A. The Contractor shall be responsible for coordinating and scheduling all applicable trades as well as the erection of all staging, delivery of materials and disposal of existing materials scheduled to be removed within the time constraints established in the Contract.

1. Mobilization Start	May 7, 2024
2. Substantial Completion	October 28, 2024
3. Final Completion	November 18, 2024

B. The Contractor's Construction Schedule shall clearly identify the on-site crew foreman and the size of the crew to be utilized. The crew size shall remain consistent, and work shall be continuous throughout the project, from start-up to completion.

C. The Owner shall review the Contractor's Construction Schedule prior to the start of any work. It shall be the responsibility of the Contractor to supply the Owner with written notice, seventy-two hours (72 hrs.) in advance, if his work location(s) for a workday is different from the schedule. The Contractor shall update his Construction Schedule weekly and submit a copy to the Owner for review.

1.9 DIMENSIONS AND QUANTITIES

A. The Contractor is solely responsible for compliance with the project specifications, plans and drawings. Make necessary investigations and take necessary precautions to properly supply, fabricate, and install work.

1.10 SCHEDULE OF VALUES

A. Provide a line-item breakdown of construction labor and materials costs for each Specification Section included in these Contract Documents. Itemize units of work, as they will be shown on the Application for Payment (use AIA Form G703). A value of work shall be itemized for each technical section within the Specification.

B. Utilize the State of Maine Construction Contract Application for Payment Continuation Sheet to prepare and submit the Schedule of Values.

C. Schedule of Values to include all unit costs and allowances within the final construction amount.

1.11 WORK RESTRICTIONS

A. Contractor shall maintain public driveway access at all times. On-Site Work Hours: Work shall be generally performed during normal business working hours of 7:00 A.M. to 6:00 P.M., Monday through Friday, except otherwise indicated by the Owner.

B. Contractor shall maintain work areas in an orderly condition and will be responsible for cleanup and removal of debris to the Contractors dumpster on a daily basis. If, in the opinion of the Owner, cleanup is not being performed satisfactorily, the Owner shall, after twenty-four hours (24 hrs.) of having notified the Contractor of the same, have the work performed by others and all charges incurred thereby deducted from the next progress payment of the Contractor.

C. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas where work is directly being performed. Do not disturb portions of the site beyond the areas in which the Work is indicated.

D. Site Enclosure Fence: Required around perimeter of dumpster and storage/staging areas to enclose and prevent the general public from access.

1.12 PROGRESS MEETINGS

A. The Owner shall establish a time and date for reoccurring weekly meetings throughout the duration of the construction period in which the contractor's representative is required to attend. The Owner reserves the right to schedule additional meetings as deemed necessary, and/or change the reoccurring meeting and time.

1.13 MATERIAL SAFETY DATA SHEETS

A. Material safety data sheets (MSDS) shall be submitted in complete sets for all products to be used prior to any work being performed.

1.14 GUARANTEES

A. Refer to specific Sections of this specification for systems and product warranty requirements. Verify with Manufacturer of proposed systems and products that specified warranty requirements are acceptable, without exception, prior to selecting materials for use on this project.

B. Submit a full Contractor Warranty of the Work to be free from defect in materials and workmanship upon Substantial Completion, and prior to final payment. This Warranty shall be for a period of two years (2 yrs.) from the date of Substantial Completion and shall be signed by a Principal of the Contractor's firm and sealed if a Corporation.

Warranty shall include all work performed by sub-contractors. Separate two-year (2-yr.) subcontractor warranties shall be provided.

1.15 INDEMNIFICATION AND WAIVER OF LIENS

A. Beginning with the first Application for Payment and thereafter, the Contractor, Sub-Contractor(s) and suppliers shall submit an Indemnification and Waiver of Liens for the construction period covered by the previous application on the form attached as part of the required documentation in any application for payment.

1.16 DUST AND ODOR CONTROL

A. Contractor to coordinate and strictly follow the Owner's requirements for construction and temporary protection to mitigate dust and odor contamination within the interior of the facility.

B. The Contractor will install clear plastic secured with duct tape over all air intake vents at the beginning of each workday to reduce any construction related odors and dust from entering the building. The Contractor will remove the plastic at the end of the project.

C. During removal operations, the Contractor shall be responsible for the containment of all dust, dirt, debris, overspray and/or run-off resulting from the performance of the work. The Contractor shall collect and contain all materials and repair any resulting damage to adjacent materials, building and/or site elements and personal property. Specific attention is drawn to the use of chemicals and cleaners that must be used responsibly in strict compliance with manufacturer's requirements and all applicable regulatory guidelines.

1.17 WORK INSIDE THE BUILDING

A. Contractor to coordinate and strictly follow the Owner's requirements for construction and temporary protection inside the building.

B. The Contractor shall not leave or store any tools, equipment, materials, debris or other items on or within the building unless permission is given by Owner.

C. Contractor shall not use building's dumpster for debris associated with this project.

1.18 CLEANUP

Restore property of the Owner to its original condition prior to the completion of construction. Refer to Section 01 50 00 – Temporary Facilities. General cleanup of the site shall be performed on a daily basis.

A. Clean, restore and/or replace items stained, dirtied, discolored or otherwise damaged due to the Work, as required by the Owner.

B. Clean roof, building (interior and exterior), landscaped and parking areas so they are free of trash, debris and dirt caused by, or associated with the Work.

C. Sweep paved areas clean.

D. Site cleanup shall be performed daily.

1.19 WORK UNDER OTHER CONTRACTS

A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Coordinate the Work of this Contract with work performed under separate contracts.

B. Separate Contract: The Owner reserves the right to perform construction operations at the site. Those operations may be conducted simultaneously with work under this Contract. No specific projects are planned at this time.

1.20 USE OF PREMISES

A. General: Contractor shall have full use of the rooftop for construction operations, including limited use of Project site as defined by the Owner, during construction period.

B. The Contractor is responsible for safety on the job site at all times. The Contractor shall take the appropriate actions to assure the areas of construction are secured from the public. The Contractor shall construct and/or install temporary fencing, signs and barricades as required assuring a safe and secure environment.

C. Contractor's staging/lay down areas is to be coordinated through an Owner representative. Contractor is responsible for repairing any damage to staging/lay down area. Contractor shall not place trailers, equipment, lay down, storage facilities outside of project site after normal working hours. Contractor shall have no vehicles, trailers, storage containers in any fire lanes or prohibited areas.

D. Contractor shall not restrict the owner's access to the building’s entrances area. If, the Contractor should need to temporarily restrict the owner's access to any areas, the Contractor shall submit a written notice to the Owner seventy-two hours (72 hrs.) in advance of access restriction.

E. Contractor to supply temporary facilities (toilets).

F. The Contractor must provide safe assisted means to access the roof from the exterior. Access must be maintained and secure at all times. The access must be locked or restricted during off work hours.

1. Accessing the work areas by climbing or scaling existing obstacles or structures will not be allowed.
2. Accessing the work areas through the interior of the building will not be allowed, there will be exterior access only.

PART 2 – PRODUCTS

NOT USED.

PART 3 – EXECUTION

NOT USED.

END OF SECTION

I:\839100\02 Design\05 - Center Building Roof\specs\Roofing Scope\839100 01 10 00 Summary of Work.docx

ALLOWANCES

SECTION 01 21 00

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. Examine all other Sections of the Specifications for requirements that affect work of this Section whether or not such work is specifically mentioned in this Section.

C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure 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.

B. The Allowances for items of Work, as set forth in the Schedule of Allowances, shall be included in the Contract Amount when changes in the Work involving said items are made in accordance with the Contract Documents.

C. Materials, methods of installation, and definitions of terms set forth under the various Allowance items in the Schedule of Allowances shall be as indicated in the Contract Documents.

D. The successful Bidder shall coordinate related work and modify or adjust adjacent work as necessary to ensure that work affected by each Allowance Item is complete and fully integrated into the project.

E. The specific quantities of Allowance Work included in the Base Bid are provided herein. This applies to items whose exact quantities are unknown but are anticipated to exist, for example, deteriorated roof decking.

F. The quantities of Allowance Work listed in this Section and the bid and contract forms **are in addition to the quantities shown on the Contract Drawings (if any).**

1.3 ALLOWANCE FOR PRODUCTS AND SERVICES

Section contains instructions that relate to an Allowance to be included in the Contract sum. Owner may elect certain aspects of work that cannot be determined at this time.

A. The amount of the allowance includes:
   1. The cost of the product or services to the Contractor, less any applicable trade discount.
   2. Delivery of product to the site.
   3. Labor required under the allowance to perform the work.
   4. Applicable taxes.
   5. Applicable Contractor mark-up.

B. Refer to Part 4.1 – Schedule of Allowances for additional information regarding scope of work to be included within the Contractor's base bid scope of work that is in addition to quantities shown in the Contract Drawings.

1.4 SELECTION OF PRODUCTS UNDER ALLOWANCE

A. Owner's duties:
   1. Consult with Contractor in consideration of work, products and suppliers, or installers.
   2. Make selection designating:
      a. Product, model, finish.
      b. Accessories and attachments.
      c. Supplier and installer, as applicable.
      d. Cost to contractor, delivered to the site or installed, as applicable.
      e. Manufacturer's warranties.
      f. Define scope of additional work.
   3. Transmit decision to Contractor.
   4. Prepare Field Directive and Authorization of Cost Proposal.

B. Contractor's duties:
   1. Assist Owner in determining qualified suppliers or installers.
   2. Obtain proposals from suppliers and installers when requested by Owner.
   3. Make appropriate recommendations for consideration of Owner.
   4. Notify Owner promptly of:
      a. Any reasonable objections Contractor may have against any supplier or party under consideration for installation.
      b. Any effect on the construction schedule anticipated by selections under consideration.

1.5 CONTRACTOR RESPONSIBILITY FOR PURCHASE, DELIVER, AND INSTALLATION

A. On notification of selection, execute purchase agreement with designated supplier and perform the designated work.

B. Arrange for and process Shop Drawings, product data, and samples, as required.

C. Make all arrangements for delivery.

D. Upon delivery, promptly inspect products for damage or defects.

E. Submit claims for transportation damage.

F. Install, work, and finish products in compliance with requirements of Contract Documents.

1.6 ADJUSTMENT OF COSTS

A. Upon determination of scope of repairs by Owner, submit cost proposal in accordance with Contract Conditions.

B. Should the net cost be more than the specified amount of the allowance, the Contract Sum will be adjusted accordingly by Change Order.

C. Should the net cost be less than the specific amount of the allowance, the Contract Sum will be adjusted accordingly by the Change Order.

D. Submit documentation for actual additional costs at the site or other expenses caused by the selection under the allowance, within thirty (30) days after completion of execution of the work.

E. Failure to submit claims within the designated time will constitute a waiver of claims for additional costs.

F. At Contract closeout, reflect all approved authorizations of allowance funds in the final statement of accounting.

1.7 UNUSED MATERIALS

A. Return unused materials to the manufacturer or supplier for credit to the Owner, after installation has been completed and accepted.

B. Where it is not economically feasible to return unused material for credit and when requested by the Architect, prepare unused material for the Owner's storage, and deliver to the Owner's storage space as directed. Otherwise, disposal of excess material is the Contractor's

1.8 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.

PART 2 – PRODUCTS

NOT USED.

PART 3 – EXECUTION

3.1 INSPECTION

A. Inspect products covered by an allowance promptly upon delivery for damage or defects.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related construction activities.

PART 4 – SCHEDULES

4.1 SCHEDULE OF ALLOWANCES

A. **Allowance No. 01:** Include $2,500.00 for the removal and replacement of additional deteriorated wood decking at Roof Areas A, B, D, E1, and E2. See Section 06 10 00 – Rough Carpentry for additional requirements and information.

B. **Allowance No. 02:** Include $1,250.00 for the removal and replacement of additional broken, cracked, and/or loose natural slate shingles at Roof Area C. See Section 07 31 26 – Slate Shingle Repair for additional requirements and information.

C. **Allowance No. 03:** Include $2,500.00 for the removal and replacement of additional deteriorated wood trim. See Section 06 10 00 – Rough Carpentry and Section 09 91 23 – Painting for additional requirements and information.

END OF SECTION

i:\839100\02 design\05 - center building roof\specs\roofing scope\839100 01 21 00 allowances.docx

SHOP DRAWINGS AND SUBMITTALS

SECTION 01 33 00

PART 1 – GENERAL

1.1 IN GENERAL

This section contains instructions for submittals and shop drawings required at various stages of the project. The following submittals will be required of all construction materials and systems:

A. List of materials stating manufacturer's name and address, as well as material trade name and manufacturer's designation.
B. Shop Drawings.
C. Samples (as specified in the Technical Sections).
D. Manufacturer’s Catalog Data.
E. Material Data Sheets (MDS).
F. Safety Data Sheets (SDS).
G. Manufacturer's Installation Instructions.
H. Construction Photographs.
I. Contractor's Schedule as it affects the contracted completion date and sequence of construction.

1.2 SUBMITTALS

The following submittals are required during the various phases of the Contract. Each submittal item shall have the technical section and paragraph number clearly indicated. All submittal items without the proper designations will be returned and will not be reviewed.

A. Contract Submissions: The Contractor shall provide electronic copies of the following submittals to the Architect/Engineer:
   1. Proposed Construction Schedule for completion of the Work specified in this project manual.
   2. List of Manufacturers for each product proposed. Include manufacturer's literature with system designations and a sample of the product guarantee.
   3. Shop Drawings.
   4. Scaffolding plans.
   5. Complete Materials List.
   6. Manufacturer's Technical Literature as selected.
   7. Manufacturer's Instructions.
   8. Catalog Data ("SPEC-DATA" Sheets).
   9. Material Safety Data Sheets (MDS).
   10. Safety Data Sheets (SDS).
   11. Samples of materials of construction.

12. Certificates as approved Applicator by Manufacturer.
13. List of proposed storage facilities and their location(s).
14. Proposed location(s) of dumpsters.
15. Schedule of Values.
16. Emergency Response Contacts.
17. Disposal Plan and Methods of removal of materials.
18. Temporary protection procedures.
19. Staging/set-up procedures.

B. Weekly Submissions: At the end of each weekly period during construction, the Contractor shall submit an updated construction schedule which will show the status of the work with respect to the schedule, anticipated completion date, and a list of all completed work.

C. Resubmittals: All resubmittals required from the Contractor shall be submitted within five (5) working days of return of original submittals.

D. Permits: Prior to start of construction, the Contractor is to provide the Owner with copies of all building permits, licenses, and other documents required by the General Conditions.

E. Close-Out Submission: See Section 01 70 00 – Project Closeout for required Submittals.

F. OSHA Requirements: All employees to be employed at the worksite must have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least ten hours (10 hrs.) in duration at the time the employee begins work.

G. Hazardous Material Requirements: Asbestos containing materials were found at various sealant materials. Removal and disposal of the materials will be required to install new roofing and flashing systems, coordinate with Section 02 82 11.EX – Asbestos Material Handling. Lead based paint were found on wood window systems and lead is assumed to exist on dormer wood trim and wood paneling at solarium windows, coordinate with Section 02 83 33 - Lead-Based Paint Stabilization/Removal and Lead Component Disposal for additional information. A removal and disposal plan must be submitted which includes anticipated approved locations for disposal.

1.3 SHOP DRAWINGS

A. Original Submittal: An electronic copy of all shop drawings shall be submitted for approval within five (5) days of Award of Contract.

B. Shop drawings for all aspects of this project shall be submitted. The shop drawings shall include existing conditions, all applicable dimensions, new products to be installed, locations, etc.

C. Resubmittal: When a resubmittal is required, the original transparency so indicating will be returned to the Contractor. After revision of the original, one (1) new reproducible and one (1) print shall be submitted for review.

D. Review: The above procedure shall be repeated until approval is obtained. The original reproducible copy of the reviewed shop drawing will be returned to the Contractor, at which time the Contractor shall make prints in sufficient numbers for the Engineer (four copies), as well as sufficient copies for his use.

E. Shop drawings of an engineering nature shall be sent directly to the Engineer for review, with a copy of the transmittal and one (1) print sent to the Owner.

F. Transmittal: All reproducibles shall be transmitted rolled in mailing tubes and not folded.

G. Changes on the submitted shop drawings that deviate from the Design Drawings must be brought to the Owners and Designers attention in writing prior to review. Changes must be clearly visible on the shop drawings in the form of written notation, ballooning or highlighting the intended change. A written description for the proposed change must also be included and submitted on company letterhead. Changes to drawings and details not submitted in accordance with these requirements will not be recognized as an approved deviation from the Design of Record. Construction repairs, renovations or replacements required as a result of shop drawing and submittal deviations that are not documented in accordance with these requirements are subject to removal and/or replacement by the Contractor, at the sole cost of the Contractor.

1.4 RECORD DRAWINGS

A. The Contractor shall provide a copy of all Contract Drawings showing as-built conditions and any Contract changes to the Owner at the completion of the project.

1.5 SAMPLES

A. Original Submittal: Four (4) samples, unless otherwise specified, of each item for which samples are required shall be furnished for approval. Approval shall be obtained prior to delivery of the materials to the project site. Such samples shall be representative of the actual material proposed for use in the project and of sufficient size to demonstrate design, color, texture and finish when these attributes will be exposed to view in the finished work.

B. Resubmittal: All rejected samples will be returned upon request, and any or all resubmittals shall consist of four (4) new samples.

C. Review: Upon approval by the Engineer, one sample so noted will be returned and the remainder will be retained by the Engineer until completion of the work. When requested, all approved samples will be returned for installation, provided their identity is maintained in an approved manner until final acceptance of the project.

D. Important specific samples are specified in Technical Sections of the Specifications. The Contractor is cautioned to quickly provide specified samples.

E. Each submittal item shall have the technical section and paragraph number clearly indicated. All submittal items without the proper designations will be returned and will not be reviewed.

1.6 CATALOG DATA

A. Submittals: Four (4) copies of catalog data are required for the original submittal and each subsequent resubmittal along with shop drawings. Following review, one (1) copy will be returned with its status noted. If approved, such additional copies may be requested by the Engineer and shall be furnished without additional cost.

B. Data: Each submittal shall have all pertinent data contained therein that is applicable to the item submitted for review, adequately and permanently designated.

1.7 CERTIFICATES AND GUARANTEES

A. Certificates of performance, treatment and conformance to specified standards (four [4] printed copies) shall be submitted prior to initiating work on the project.

B. Copies of all guarantees (four [4] printed copies) required on the project shall be submitted for review and acceptance as to form.

1.8 IDENTIFICATION

A. Data: All submittals for review shall have the following identification data, as applicable, contained thereon or permanently adhered thereto:
   1. Project name and location.
   2. Engineer's name.
   3. Subcontractor's, Vendor's and/or Manufacturer's name and address.
   4. Product Identification. (It is important that the specific product intended for use is indicated on manufacturer's literature).
   5. Shop drawing title, drawing number, revision number and date of drawing and revision.
   6. Applicable Contract Drawings and Specification Section numbers.

B. Catalog Data: Each separate catalog, brochure or single page submitted shall have the identification required hereinbefore.

1. Catalogs or brochures submitted containing multiple items for approval need the identification on the exterior and on each specific item clearly circled, flagged or otherwise identified.
2. In the event that one or more of the multiple items are not approved in any submittal, the additional copies required will not be requested until all items are approved.
3. Do not commence work until every submittal is accepted.

C. Space: Vacant space approximately two- and one-half inches wide by four inches high (2-½" W x 4" H) shall be provided adjacent to the identification data to receive the Engineer's status stamp.

1.9 CONTRACTOR'S RESPONSIBILITY

A. Representation: By his submittal of any shop drawing or catalog data, the Contractor thereby represents that he has determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data, or will do so, and that he has checked and coordinated each item with other applicable approved shop drawings and the Contract requirements. Certification shall appear on each shop drawing stating that the Contractor has made this check. All drawings without this certification will be returned without examination.

B. Deviations: Changes on the submitted shop drawings that deviate from the Design Drawings must be brought to the Owners and Designers attention in writing prior to review. Changes must be clearly visible on the shop drawings in the form of written notation, ballooning or highlighting the intended change. A written description for the proposed change must also be included and submitted on company letterhead. Changes to drawings and details not submitted in accordance with these requirements will not be recognized as an approved deviation from the Design of Record. Construction repairs, renovations, or replacements required as a result of shop drawing and submittal deviations that are not documented in accordance with these requirements are subject to removal and/or replacement by the Contractor, at the sole cost of the Contractor.

C. Prohibitions: No portion of the work requiring a shop drawing, sample or catalog data shall be started, nor shall any materials be fabricated or installed, prior to the approval of such item.

D. Review: Project work, materials, fabrication and installation shall conform with approved shop drawings, applicable samples and catalog data.

E. Failure to submit shop drawings in ample time for review, approval and resubmission (if required) prior to the commencement of construction shall not affect the completion date of the Contract.

F. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Designer's receipt of submittal.
   1. Initial Review: Allow **ten** (**10)** workdays for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Engineer will advise the Contractor when a submittal being processed must be delayed for coordination.
   2. Concurrent Review: Where concurrent review of submittals by the Engineer's consultants, or other parties is required, allow **ten** (**10)** workdays for initial review of each submittal.
   3. Direct Transmittal to Consultant: Where the Contract Documents indicate that submittals may be transmitted directly to Engineer's consultants, provide duplicate copy of the transmittal to the Engineer. The submittal will be returned to Engineer before being returned to Contractor.
   4. If intermediate submittal is necessary, process it in same manner as initial submittal.
   5. Allow **ten (10)** workdays for processing each re-submittal.
   6. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.
   7. The engineer will schedule one working day for submittal review for this project, typically on a Wednesday of each week. Unless a time critical submittal requires immediate attention, all individual, or partial submittal packages will be retained, and not reviewed until multiple items are provided until said designated day. The contractor shall take this into account when scheduling and coordinating submittal and construction activities to prevent delays in their work activities.
   8. Multiple individual submittal reviews or incomplete packages are subject to potential back charges to the contractor due to unreasonable review times which may be required. The contractor is to provide complete submittal packages for technical section.

1.10 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Procedures: Comply with procedures required by the Owner.

B. Time Frame: Extend schedule from date established for commencement of the Work or the Notice to proceed to date of Final Completion.
   1. Contractor shall indicate specific dates which may require the Designer's attention to proceed on a critical path.

C. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than sixty (60) days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.

D. Submittal Review Time: Include review and resubmittal times and coordinate with Contractor's Construction Schedule with Submittals Schedule.

E. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Owner, OPM, Designer's and administrative procedures necessary for certification of Substantial Completion.

F. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, interim milestones**,** Substantial Completion, and Final Completion.

G. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis to demonstrate the effect of the proposed change on the overall project schedule.

1.11 PRELIMINARY CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Within twenty (20) days of written notice to proceed or contract award, submit preliminary horizontal bar-chart-type construction schedule prior to the Preconstruction conference.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for the duration of construction.

1.12 CONTRACTOR'S CONSTRUCTION SCHEDULE, GANTT CHART

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within twenty (20) days of the Preconstruction meeting. Base schedule on the Preliminary Construction Schedule and any updates and feedback received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
   1. For construction activities that require three months (3 mo.) or longer to complete, indicate an estimated completion percentage in twenty percent (20%) increments within time bar.

PART 2 – PRODUCTS

NOT USED.

PART 3 – EXECUTION

NOT USED.

END OF SECTION

THIS PAGE IS INTENTIONALLY LEFT BLANK.

TEMPORARY FACILITIES

SECTION 01 50 00

PART 1 - GENERAL

1.1 GENERAL

A. This Section contains instructions and requirements for the provision and utilization of temporary facilities to protect the Owner's property, the site and construction materials; and daily maintenance and cleanup of the site during the project.

1.2 STORAGE FACILITIES

A. See Section 01 63 00 – Weather Protection and Materials Storage

1.3 CONTRACTOR'S USE OF EXISTING FACILITIES

A. The Contractor shall provide all protection, guards and barriers necessary to segregate the work area and adjacent or below areas from pedestrian and vehicular traffic. Protect existing building, building finishes, landscaping and paved areas from damage.

B. Limit use of the premises to the work indicated, so as to allow for the Owner's uninterrupted occupancy and use. Confine operations to the areas indicated under the Contract. Conformance to the regulations set forth by the Owner, regarding use of existing facilities is mandatory.

C. Take precautions necessary and provide equipment, materials and labor to adequately protect previous construction, the building, its contents and occupants, and surrounding landscaped areas from damage due to construction as well as from inclement weather during construction.

D. Clean interior and exterior areas affected by the construction on a daily basis. Do not allow construction debris, waste materials, tools, excess packaging materials or other construction related materials to accumulate on the roof, in the facility, or at the exterior grounds and pavements.

E. Coordinate with the Owner for additional interior cleaning and protections required for the work.

F. See Section 01 63 00 – Weather Protection and Materials Storage for product storage facilities and requirements.

1.4 SANITARY FACILITIES

A. The Contractor will furnish portable toilets. Temporary toilets shall be kept in a sanitary condition at all times and properly supplied at appropriate locations by the

Owner until completion of the project. Use of the sanitary facilities within the building is not permitted.

1.5 BARRIERS

A. The Contractor shall install temporary fencing, warning lines, barriers and the like, as required, to segregate the construction areas from existing facilities, occupants and the public.

B. All Contractors are required to conform to OSHA requirements and all local, state and federal safety regulations.

C. The Contractor shall provide guard lights on all barriers and all lighting necessary to prevent vandalism of work and storage areas. The Owner is not responsible for Contractor's losses due to damage or theft by vandals.

1.6 CRANES AND HOISTING EQUIPMENT

A. All hoisting equipment and machinery required for the proper and expeditious prosecution and progress of the work shall be furnished, installed, operated and maintained in a safe condition by the Contractor. All costs for hoisting operating services shall be borne by the Contractor including street permits and police details.

1.7 ACCESS

A. Provide ladders, scaffolding, staging and hoists as required to access the project area(s) in accordance with OSHA and D.L.W.D. guidelines. Should damage to the building and/or grounds occur, restore damaged areas to the original condition and clean up debris.

B. Where scaffolding and staging is required for the proper installation of the work it shall be erected to provide a minimal impact on the site.

C. All barriers and warning lines shall be installed at the base of any scaffolding or staging and around ground areas below elevated staging.

D. Provide walk through overhead protection where work areas are above doors, walkways, or sidewalks in accordance with OSHA.

E. All scaffolding and staging shall be erected in conformance with all applicable state, federal and local codes. The Contractor shall follow all applicable local, state, and federal requirements regarding the construction of scaffolding and staging and the protection of public safety. Specific reference shall be made to the OSHA Construction Safety Regulations and all requirements of the State of Maine Department of Labor.

1.8 SETUP AREAS AND USE OF THE SITE

A. The Owner shall determine the locations of the Contractor's designated setup areas. The Contractor may not utilize any other locations unless permission is obtained from the Owner.

B. The Contractor shall permit the Owner and Engineer access to the staging, work areas and test areas at any time, as required to perform inspections and review mock-ups. The Contractor shall not move or remove staging or access to the work areas until instructed by the Owner and Engineer to do so. Any staging or access to the work areas removed by the Contractor without approval of Owner and Engineer, shall be reinstalled and setup at the request of the Owner and/or Engineer at no additional cost to the Owner.

C. Other specific requirements of the Owner will be addressed and outlined at the Pre-Construction meeting to be held prior to the start of work.

D. Take precautions necessary and provide equipment, materials and labor to adequately protect previous construction, the building, its contents and occupants, and surrounding landscaped areas from damage due to construction as well as from inclement weather during construction.

1.9 UTILITIES

A. The building is currently abandoned and vacant. Most utilities have been shut-off, removed, capped or are no longer in service. The Contractor should anticipate providing their own utilities assuming what is there is not working.

B. The Owner, through exterior electrical outlets, if operable, will provide electrical service to the Contractor free of charge. Use shall be limited to construction hours. The Contractor and/or subcontractors shall provide their own electrical generator for welding equipment, HEPA vacuum, and grinding equipment. The Owner reserves the right to charge the Contractor(s) for excessive electrical service usage (i.e., wasteful usage). Should charges be considered, the Owner will notify the Contractor in writing of his intent forty-eight hours (48 hrs.) in advance.

C. Owner will provide water for construction purposes free of charge through exterior water spigots, if operable. The Owner reserves the right to charge the Contractor for excessive or wasteful use. Should charges be considered, the Owner will notify the Contractor in writing of his intent forty-eight hours (48 hrs.) in advance. The Contractor shall provide drinking water.

D. Contractor shall provide all other utilities required by the work.

E. Ensure proper and safe operation and maintenance of utility systems within the construction limits, whether these are supplied by the Owner's distribution system or otherwise, until the Owner accepts the work. Maintain and operate appurtenances within the construction area that serve the distribution system, subject to periodic

inspection by the Owner's operating personnel. Inspection by any representative or personnel of the Owner shall not relieve the Contractor of his responsibilities in connection with operation and maintenance of these facilities and equipment.

1.10 TEMPORARY PROTECTION

A. Provide suitable Owner-approved temporary protection to prevent the entrance of debris, obstructions, and water infiltration into the building. Provide warning signs to reroute personnel around areas of dangerous work. Place warning barriers at roof perimeters and at deck openings. Clearly label temporary covers over deck openings. Do not permit openings to remain unprotected overnight. Schedule operations to allow for completion of new roofing over a predetermined area of roof within a day's work. Use special care to avoid damaging existing roofing and flashing when working on the roof of the building.

B. Provide temporary tie-ins between existing and new roof systems as specified and detailed. Tie-in construction shall completely prevent interior leaks, migration of moisture from existing to new construction and damage of any type to the facilities. Provide necessary quality control at tie-ins on a daily basis to prevent leaks.

C. Avoid traffic on completed roof areas. Coordinate work to prevent this situation. Should temporary access be required, provide temporary substrate protection for trafficked areas.

D. Protect materials scheduled for reuse from damage by placing them in labeled containers or wrappings stored in a weathertight trailer.

E. Provide temporary protection such as plywood and tarps for streets, drives, curbs, sidewalks, landscaping and existing exterior improvements during all phases of the project.

1.11 DEBRIS REMOVAL

A. The Owner shall designate crane and refuse container locations. This area shall be sectioned off with proper warning lines.

B. Removed materials shall not be thrown freely from the roof but shall be discarded in an enclosed chute, in order to reduce the spread of dust and other debris.

C. Supply adequate covered receptacles for waste, debris and rubbish. One (1) receptacle will be allowed on site at a time, and must be immediately removed from the site when full. Clean the project area daily and prior to moving the receptacle to another location on the site. Locations shall be as permitted by the Owner. Disposal shall be off-site in a legal dump authorized to accept construction demolition solid wastes. The Contractor shall be responsible for receptacle-related damage to site grounds.

D. Receptacles shall be removed from the site daily. Should, for any reason, receptacle removal is not possible on any given day, the Contractor shall move the receptacle a minimum of fifty feet (50') from the building or as required by local fire officials.

1.13 ACCESS TO THE WORK

A. The Contractor is responsible for providing access to all roof areas included within the project's scope of work. Contractor is required to maintain, clean and keep clear all exterior pathways utilized to access roof. Tools, materials or equipment will not be permitted within the building unless it is specifically required to complete the work. Failure to comply with Owner's requirements will result in the Contractor providing their own access to the roof at no additional cost to the Owner. A Contractor's staging and/ or laydown area will be designated by the Owner adjacent to the building.

1.14 ACCESS TO THE INTERIOR

A. The Contractor must secure and coordinate access with the Owner prior to entering building or performing work at the building interior. All access to the roof shall be provided by the Contractor from the exterior of the facility. All roof access locations/methods shall be located at an Owner approved location for this purpose, and shall be made secure at the end of each work day to prevent un-authorized access onto the unit. As an alternative, an extension ladder erected and removed daily will be permitted.

B. The Owner will designate which portions of the site the Contractor may utilize and access for the performances of the work. The Contractor must submit a site plan indicating his locations of set up, material storage, and parking. Parking at other locations throughout the lot, without prior authorization, is subject to vehicle removal at no cost to the Owner.

C. All hoisting of equipment and materials must be done on the exterior of the building. No tools will be permitted inside the building unless they are specific to perform the required work.

D. The Contractors will be required to provide a clean change of clothes, and shall be responsible for any damages or stained interior components should access to the interior be required.

E. The Contractor will be required to provide access to the designer and manufacturer's representatives at no additional cost, to review the work operations, and to perform final observations.

1.15 VEHICLES

A. Contractor to park vehicles in the designated storage/laydown location or at locations designated by the Owner.

1.16 TRAFFIC CONTROL

A. The Contractor shall arrange and pay for all police details required to control traffic affected by any part of the work, if required.

1.17 CLEANUP

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

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

C. All landscape areas damaged or littered due to the work shall be raked clean and reseeded if required.

D. All paved areas shall be swept clean of debris daily. All paved areas shall be washed clean at the completion of work.

E. All areas stained, dirtied, discolored or otherwise damaged due to the work shall be cleaned, restored or replaced as required.

1.18 SIGNS

A. If requested by Owner, the Contractor shall conspicuously post a project sign at ground level. This sign shall designate the project entrance. Only one (1) entry may be used by the Contractor. The entry location shall be as directed by the Owner.

B. The Contractor shall install adequate signage to inform facility users of any changes to existing conditions or construction areas.

C. The Contractor shall also construct a project sign must be at least four feet (4') tall by eight feet (8') wide or as designated by the Owner. Contractor to provide small scale graphic illustration of the sign for review and approval prior to final construction.

PART 2 – PRODUCTS

NOT USED.

PART 3 – EXECUTION

NOT USED.

END OF SECTION

WEATHER PROTECTION AND MATERIALS STORAGE

SECTION 01 63 00

PART 1 – GENERAL

1.1 GENERAL

A. The Contractor shall take the necessary precautions and provide all equipment, materials and labor necessary to adequately protect the Contract Area, previous construction, the building and its contents and occupants, and surrounding landscape areas from damage due to the construction or inclement weather during construction.

B. No storage on or within the building will be allowed without prior authorization from the Owner and Engineer.

C. The Contractor shall provide all access to the work. Staging and other access shall be provided until new work has been accepted by the Owner.

D. Refer to the "Roofing Superintendent's Workbook" by the National Roofing Contractors Association and the Brick Industry Association (BIA) manual for additional information.

1.2 WEATHER PROTECTION

A. Weather protection shall mean the temporary protection of that work adversely affected by moisture, wind, heat and cold by covering, patching, sealing, enclosing, ventilating, cooling and/or heating. This protection shall be provided for all work areas, the building and its contents, trafficked adjacent areas, and all construction materials and accessories.

B. The Contractor shall be responsible for protecting the Work form moisture in order to prevent the growth of fungus, bacteria, and other biological contaminates. Remove and replace work that has been wet for twenty-four hours (24 hrs.) or more, or that shows evidence of biological growth due to the presence of moisture.

C. The cost of heat, fuel and power necessary for proper weather protection shall be the responsibility of the Contractor.

D. Installation of weather protection shall comply with all safety regulations, including provisions for adequate ventilation and fire protection devices.

1.3 FIRE PROTECTION

A. The Contractor shall provide all necessary temporary fire protection for the building, building contents and materials during construction. The Contractor shall provide incombustible protective blankets where necessary to protect surfaces or building contents from damage.

B. At no time shall any combustibles be stored inside the building. All adhesives, caulks and cleaning solvents shall be stored well away from the building in a method approved by local fire officials.

C. Should any cutting, burning or welding be necessary, the Contractor shall provide a fire watch. This watch will continue during the operations and for four hours minimum after completion.

D. At no time shall open flames be present around adhesives, caulks or cleaning solvents as they will readily ignite. Rags soaked with cleaning solvents shall not be discarded in the dumpsters but shall be stored in a metal receptacle and removed from the site daily.

E. The Contractor shall be required to comply with all local fire codes and shall obtain all permits necessary from the local fire department and provide one (1) copy to the Engineer.

F. The Contractor shall provide recently tested, fully charged fire extinguishers around the storage area, rubbish receptacle and two (2) within one hundred feet (100') of the work area or as specifically required by local fire officials.

G. Provide necessary temporary fire protection for the buildings, their contents and materials during construction. Do not store combustibles inside the buildings or on the roofs. Store adhesives, caulks and cleaning solvents away from the building using a method approved by local fire officials. Should cutting, burning or welding be necessary, provide a fire watch during operations and for four hours (4 hrs.) minimum after completion of the operations.

H. Comply with local fire codes and obtain permits necessary from the local fire department. Provide a copy to the Owner. Provide recently tested, fully charged fire extinguishers around the storage area, rubbish receptacle and two fire extinguishers on the roof within fifty feet (50') of the Work.

1.4 MATERIALS STORAGE

A. In the event that materials are exposed to the elements, they shall be marked as unacceptable and immediately removed from the site. They may not be used.

B. On-site storage of materials is the responsibility of the Contractor. The Owner is not responsible for Contractor's losses due to damage or vandalism.

1.5 ROOF PROTECTION

A. The existing and newly-installed roof systems shall be totally protected in the work areas by installation of a layer of rigid insulation followed by a layer of plywood. Plywood shall be adequately ballasted to prevent wind blow off of the plywood and roof system.

B. All existing and newly-installed roof areas, trafficked during construction, shall be protected as noted above.

C. The Contractor and all Sub-Contractors are responsible for the prompt repair of any damage to the existing roof systems resulting from the work at the project.

1.6 NOTIFICATION

A. If, during the Contract period, the Contractor is notified of insufficient weather protection, he shall, immediately, properly restore the weather protection and repair or replace any damaged unprotected materials and systems. Should the Contractor not effect immediate repair or replacement when notified, the Owner shall have the proper protection installed at the Contractor's expense.

1.7 MANUFACTURER'S INFORMATION

A. The manufacturers of all the materials shall supply written instructions concerning the storage and handling of all supplied materials, including sealants, and accessories. The manufacturer shall also provide information concerning storage and handling of flammable or volatile materials.

B. Storage facilities shall be acceptable to the manufacturer and conform to his written requirements concerning temperature, humidity, ventilation and the like.

C. The "shelf-life" of materials shall be provided with the date of manufacture of all perishables, including volatiles, caulkings and mastics.

D. The Contractor shall supply a copy of all manufacturer's written instructions to the Owner and the Engineer as outlined in Section 01 33 00 - Shop Drawings and Submittals. The Contractor shall comply with all storage and handling requests and instructions of the manufacturer.

1.8 VOLATILE MATERIALS

A. The Contractor is reminded that the adhesives, solvents, bitumens, etc., are highly volatile and flammable materials. Do not store these materials, contaminated tools, applicators or rags, on or within the buildings. No overnight storage on the roofs will be allowed. Do not transport materials through the building. Take precautions and closely follow the Specification requirements for fire protection on site during construction.

B. Locate and use flame-heated equipment so as not to endanger the structure, other materials on site, or adjacent property. Do not place flame-heated equipment on the roof. Locate and use flame-heated equipment in specific areas approved by the Owner. Do not relocate flame-heated equipment without prior approval from the Owner.

C. The use of flame-heated equipment or torches on the roof is prohibited unless specifically approved in writing by the Owner.

PART 2 – PRODUCTS

NOT USED.

PART 3 – EXECUTION

NOT USED.

END OF SECTION

I:\839100\02 Design\05 - Center Building Roof\specs\Roofing Scope\839100 01 63 00 Weather Protection and Materials Storage.docx

PROJECT CLOSEOUT

SECTION 01 70 00

PART 1 - GENERAL

1.1 GENERAL

When the project is established to be substantially complete, preparations will be made to close out the project prior to Owner's final acceptance. The preparations are as follows:

1.2 SUBSTANTIAL COMPLETION

A. Substantial completion for this project is defined as the date when the Owner and Owner's Representative mutually agree and certify that all project related work has been properly installed and completed in a manner conforming to the Contract Documents. Work specified within the Contract Documents which has not been performed or has been performed in a manner which does not conform with the Contract Documents shall be deemed as not achieving substantial completion.

1.3 PUNCH LIST

A. After the project is determined to be substantially complete the Engineer and a representative of the Owner will tour the project and compile a "punch list" of minor unsatisfactory conditions. A copy of this list will be sent to the Contractor and will be used by the Contractor. He shall then correct the unsatisfactory conditions. When all items on the list have been corrected, the Contractor shall notify the Engineer and the Owner representative, and a reinspection will be made by that representative.

B. Minor "punch list" items shall be only those items which have been installed and are functional, requiring cosmetic repair or cleaning which does not affect the integrity of the system. Any work specified within the Contract Documents, which has not been performed or has been performed in a non-conforming manner to the Contract Documents shall not be defined as minor "punch-list" items, and must be performed or corrected as appropriate in order to achieve substantial completion.

C. Should additional re-inspections be required due to punch list items which are reported to be complete but are not completed or improperly completed, the costs of these re-inspections will be assessed to the General Contractor.

1.4 PUNCH LIST RE-INSPECTIONS

A. After providing written notification to Owner and the Engineer that the punch list work has been completed, the Owner and the Engineer will perform one (1) final inspection.

B. Should additional re-inspections be required due to punch list items which are not completed or improperly completed, the costs of these re-inspections will be assessed to the Contractor as liquidated damages.

1.5 MANUFACTURER'S INSPECTION

A. After the re-inspection by the Owner's representative, the Materials Manufacturer's representative will be required to tour the site. The representative shall determine if the materials have been installed as required by the Manufacturer.

B. Any items the representative determines were not so installed shall be reinstalled so as to comply with the Manufacturer's intended use. The Manufacturer shall forward a copy of the list of all items determined to be not installed as intended by the Manufacturer to the Engineer.

C. Costs associated with all manufacturer inspections shall be the responsibility of the General Contractor.

1.6 GUARANTEES

A. When both the Owner's representative and the Manufacturer's representative agree that the Contractor has performed according to the Specifications and has installed the materials to the satisfaction of the Manufacturer, the Contractor shall petition the Manufacturer for the materials guarantee. He shall forward this guarantee to the Owner and provide a copy for the Engineer.

B. The Contractor will be required to provide lien releases for their work. The Contractor shall then forward his guarantee covering the construction to the Owner and provide one (1) copy for the Engineer.

1.7 RETAINAGE RELEASE

A. When all guarantees, certifications, close out documents and requested lien releases have been received, the Owner shall release to the Contractor the project retainage and any other monies retained by the Owner to guarantee project completion. Except with the Owner's prior approval, payments to the Contractor shall be subject to retention of ten percent (10%).

1.8 DOCUMENTS REQUIRED FROM THE CONTRACTOR PRIOR TO FINAL PAYMENT

A. Documents will be submitted to the Engineer in triplicate, each set-in individual binders for submission to the Owner. These items include, but are not limited to, the following:
   1. All applicable manufacturer's warranties.
   2. Contractor and Sub-Contractor's two-year (2-yr.) guarantee.
   3. Manufacturer's roof system warranties.
   4. Executed Punch List Inspection letter(s).

5. Consent of Surety Company to Final Payment (AIA Form G707).
6. Lien Releases from Contractor, subcontractor and suppliers (AIA Forms G706, G706A).
7. Contractor's Affidavit of Payment of Debts and Claims.
8. Final Application and Certificate for Payment.
9. Completed waste shipment records and dumping manifests.
10. As Built Drawings.
11. Other documents which may be specifically required by the Owner or the Engineer.

PART 2 – PRODUCTS

NOT USED.

PART 3 – EXECUTION

NOT USED.

END OF SECTION

I:\839100\02 Design\05 - Center Building Roof\specs\Roofing Scope\839100 01 70 00 Project Close Out.docx

THIS PAGE IS INTENTIONALLY LEFT BLANK.

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
C. Section 09 91 23 – Painting
D. Section 26 10 00 – Temporary Mechanical/Electrical Disconnects

1.3 SCOPE OF WORK

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:

A. Coordinate this work with all trades to provide orderly progress of the tasks.

B. Remove existing and 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 for additional information.

C. Remove and replace locations of deteriorated wood decking. There are no known quantities indicated in the Contract Drawings. Review quantities to be replaced with the Owner and Engineer. The contractor shall carry an allowance for an additional quantity of deteriorated wood decking to be replaced as part of the base bid contract. Additional quantities to be carried are to be as indicated in the allowance schedule within the Contract Documents. Refer to section 01 21 00 - Allowance for quantities of deteriorated wood decking to be replaced as part of the base bid contract.

D. Remove and replace deteriorated exterior wood trim as required in a configuration to match existing. There are no known quantities of deteriorated wood trim indicated in the Contract Drawings. Review quantities to be replaced with the Owner and

Engineer prior to performing the work. The contractor shall carry an allowance for an additional quantity of wood trim to be replaced as part of the base bid contract. Additional quantities to be carried are to be as indicated in the allowance schedule within the Contract Documents. Refer to section 01 21 00 – Allowance.

E. Install plywood at locations and as indicated in the Contract Drawings.

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

1.4 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.

1.5 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. AWPA – AMERICAN WOOD PROTECTION ASSOCIATION

1.6 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 D 5516 and ASTM D 5664.
   3. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
   4. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

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

1.7 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."

1.8 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.

1.9 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 (6") wide, except where otherwise detailed. Wood furring/blocking shall be permitted to be minimum four-inch (4") wide at expansion joints and wall locations.

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. 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 (½") thick for wall systems, unless designated otherwise on the detail drawings. Pressure treated plywood will not be permitted.

2.3 EXTERIOR TRIM REPLACEMENT

A. Lumber Trim for Painted Finish:

1. Species and Grade: Mahogany, Grade 1 (domestic).
2. Maximum Moisture Content: 19 percent with at least 85 percent of shipment at 12 percent or less.
3. Finger Jointing: Not allowed.
4. Face Surface: Surfaced (smooth).

B. Moldings for Painted Finish, WMMPA WM 4, N-grade wood moldings, without finger jointing. Made from kiln-dried stock to patterns included in WMMPA WM 12.

1. Species: Western red cedar.

2.4 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.

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

2.5 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 to wood decking shall be #14 self-drilling, self-tapping, fluorocarbon coated screws of sufficient length to penetrate the decking one-inch (1") minimum, one- and one-quarter inch (1-¼") maximum.

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-quarter 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. Pre-drill 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') 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') minimum layer to layer. The minimum length of any individual piece of woodwork shall be two feet (2'). 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 (2x6), 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 1-1/2-inches 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 six inches (6") 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.

B. Coordinate temporary disconnection of existing rooftop mechanical units with Section 26 10 00 – Temporary Mechanical/Electrical Disconnects.

C. 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 Sections 07 53 00 – Elastomeric Roofing and Flashing and 07 62 00 – Sheet Metal Roofing and Flashing.

3.7 REPLACEMENT WOOD DECKING

A. Deteriorated wood decking work shall be defined as any wood member which exhibits extensive splitting, checking, soft damp areas, cracks, insect infestation or excessive deflection.

B. Replacement decking for both deteriorated sections and replacement of removed wood decking for the attic renovations shall be installed to provide two spans of

structural supports minimum. Three fasteners shall be installed at each decking member to structural support connection.

C. Secure new and resecure existing components as required to restore stability.

3.8 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

I:\839100\02 Design\05 - Center Building Roof\specs\Roofing Scope\839100 06 10 00 Rough Carpentry.docx

THIS PAGE IS INTENTIONALLY LEFT BLANK.

SLATE SHINGLE REPAIRS

SECTION 07 31 26

PART 1 - GENERAL

1.1 IN GENERAL

A. Division 1, 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 one for additional information.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Section 06 10 00 – Rough Carpentry

1.3 SCOPE OF WORK

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:

A. Supply all shoring and protection necessary to protect the building areas, building systems and landscape areas.

B. 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.

C. Provide all access to the work areas to complete the work.

D. Remove and replace designated broken and loose slate shingle components at Roof Area C, as indicated on the Contract Drawings. Additional quantities of repair are to be carried as indicated in Section 01 21 00 – Allowances.

E. Provide temporary protection of roof systems and personal property below.

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

1.4 JOB CONDITIONS

A. 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.

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. 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.

D. The Contractor, his workmen, all his suppliers and agents shall make every effort to work in harmony with the building occupants.

E. The Contractor is hereby notified that the defects shown on the Contract Drawings are based on visual observations only. The contractor will be required to confirm the dimensions of the slate shingles in the field, once access is provided, to confirm the actual size of the slate to be installed. The specifications have been based on a standard size/configuration for all bidders to provide similar bid pricing.

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

G. All surfaces to receive new slates 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.

H. 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.

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

J. 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.

1.5 SUBMITTALS

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

B. The Contractor shall provide adequate staging and protection of the interior building as required to perform the work. Provide submittals for site protection and staging as specified in Section 01 33 00 – Shop Drawings and Submittals.

C. The Contractor shall submit the following procedural items with their submittal package:
1. Methods of removal of materials.
2. Temporary protection procedures.
3. List of local emergency numbers.
4. Staging/set-up procedures.

D. The Contractor shall submit the following samples with their submittal package:
1. Three (3) replacement slates shingles to show a range.
a. Submit slates to illustrate the full range of colors and surface finish. The existing slates appear to be of the gray/black variety. The Contractor shall provide several samples to ensure new slates match existing. No slates shall be purchased or installed until approval by the Owner is obtained.

PART 2 - MATERIALS

2.1 NATURAL SLATES

A. Slate shingles shall be standard widths twelve-inch by sixteen-inch by one-quarter inch (12” x 16" x ¼"), and as required to match the existing, rough textured natural slates with two (2) machine punched holes properly located for a minimum three-inch (3”) head lap. Slates shall meet or exceed the requirements of ASTM C 406 specifications, Grade S1. Slates shall be free of soft ribbons. New slate system is to be laid in a standard pattern with six- and one-half inch (6-½”) exposure; the new system shall match existing.

B. The replacement slates shall match the existing color, texture, hue and appearance. Existing slates appear to be of the Monson Black variety.

C. Felt underlayment shall be asphalt saturated felt conforming to ASTM D4869 Type I, or approved equal. A high-density polypropylene fabric which is breathable and vapor permeable with a permeability rating of fifty-nine (59) or better, such as SlopeShield by VaproShield, can be substituted pending approval of shingle manufacturer. Underlayment shall be as recommended and approved by the shingle manufacturer.

D. Modified bitumen underlayment shall be a butyl rubber based, self-adhering underlayment such as Grace Ultra, as manufactured by W.R. Grace Construction Products, Metal Mate or approved equal. Modified bitumen shall be high temperature products for use under sheet metal and shingle

components. Underlayment shall be approved in writing by shingle manufacturer.

2.2 SLATE FASTENERS AND ACCESSORIES

A. In general, fasteners, straps and other hardware shall be copper, bronze, or stainless steel.

B. All accessories, including but not limited to nails, screws and clips shall be copper, brass, stainless steel or galvanized steel and completely compatible with the surrounding metal to prevent galvanic reaction.

C. Asphalt Roofing Cement: ASTM D 4586, Type II, asbestos free.

D. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied.

E. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in slate-shingle roofing and remain watertight.

F. Felt Underlayment Nails: Aluminum, or hot-dip galvanized-steel wire nails with low-profile metal heads on plastic disc caps, one-inch (1”) minimum diameter.

G. Nails for securing slate to the wood decking shall be No. 12 gauge, large head, smooth shank copper or stainless-steel nails of sufficient length to penetrate decking one-inch (1”) minimum at all locations, including hips and ridges.

H. Plain copper for babbies and sheet metal hooks and cleats shall be sixteen-ounce (16 oz.) cold rolled sheet conforming to ASTM B-370-88 Type I, Class A Specifications. All remaining copper shall be as specified below.

PART 3 - EXECUTION

3.1 REMOVAL OF EXISTING SYSTEMS

A. The Contractor shall follow the recommendations published in the NRCA Roofing and Waterproofing Manual Volume 2 - Steep Roofing Manual and guidelines published "Slate Roofs" published by Vermont Structural Slate Company, Inc.

B. Slates to be replaced shall include all missing, cracked, broken or otherwise unsound slates in locations indicated on the Contract Drawings. Any additional damaged slate shingles encountered will be replaced at a Unit Price scope of work.

C. At areas to receive roof related repairs shall have the existing slates removed and replaced.

D. Remove only as many slates and flashings that can be replaced and made weathertight the same day.

E. Sound slates broken as a result of the Contractors operations shall be replaced by the Contractor at no additional cost to the Owner.

3.2 UNDERLAYMENT

Note, it is not anticipated that underlayment installation will be required for individual slate shingle repairs. However, should large scale slate replacement be considered, new underlayments shall be applied over the roof deck, be tucked under the slate shingles above, and be overlapped onto the slate shingles below, to allow drainage. The follow installation practices are for flashing areas which may be encountered as part of the project.

A. Install modified bitumen underlayments atop roof decks, as described in these specifications, as shown on the Contract Drawings and recommended by the manufacturer. For all repairs to large sections of damage slate areas where the roof deck becomes exposed. Bitumen sheets shall have three-inch (3") minimum horizontal laps onto new underlayment and six-inch (6") end laps. In general, modified bitumen underlayment shall be installed as follows:
   1. At all eave locations modified bitumen sheets shall extend from the roof edge up the roof deck three feet (3’-0”) minimum beyond the interior portion of the wall below the roof system and shall be sealed without wrinkles to sheet metal flanges for three inches (3”). Underlayment shall turn up all walls four-inch (4”) minimum. Roll in all underlayment with rollers to assure one hundred percent (100%) adhesion. Extend underlayment past all hips and valleys.
   2. At all rake edge locations, modified bitumen sheets shall extend twelve inches (12”) minimum onto the roof deck.
   3. At all roof to wall locations, modified bitumen sheets shall extend up onto the vertical wall six inches (6”).
   4. Modified bitumen sheets shall be lapped atop heads of shingles where installed at walls and penetrations as shown on the Contract Drawings.

B. Felt underlayments shall be installed in a one-ply application across the roof slope lapped to shed water. Felt shall be side lapped four-inch (4”) minimum and shall have six-inch (6”) minimum end laps. Torn or otherwise damaged felt shall be replaced. Felt shall be turned-up at walls.

3.3 INDIVIDUAL SLATE REPLACEMENT

A. Replace individual missing, cracked, broken or otherwise unsound slates.

B. If removal of existing coper ridge cap is required to perform repairs, carefully remove the cap for reinstallation at the conclusion of repairs.

C. New or replacement slates shall slide into the void left by the removed or missing slate. Secure the slate in place with the specified nails through the replacement slate and into the vertical joint between the two slates above. Care should be taken not to crack the adjacent slates with the fasteners. All cracked slates as a result of the fasteners being installed must be replaced at no additional cost to the Owner. Fasteners shall be set one-half inch (½") below the butt of the slate in the second course above the replacement piece and shall be installed flush with the surface of the replacement slate.

D. Slightly bend the sheet metal bib in the center. Slide the bib over the fasteners in the replacement slate but under the two slates that form the vertical joint where the fasteners have been driven.

E. The babbie must slide past the fastener head and be pushed up at least three inches (3") beyond the butt of the pieces in the next course up.

F. To replace individual valley slates, remove the full piece of field slate above the damaged valley slate to expose the nails on the outside edge of the valley piece. Remove the nails and replace the valley slate. The replacement valley slate shall replicate the existing slates original configuration.

G. Secure the new valley slate with two nails properly situated to not penetrate the valley flashings. Replace the field slate as described previously in this paragraph.

H. To replace damaged hip and ridge slates below sheet metal flashings, remove the existing section of sheet metal flashing as required to expose the nails securing the damaged slate. Remove the damaged slate and replace with a new slate that replicates the existing slates original configuration. Reinstall the existing sheet metal flashing and re-solder all joints as required.

I. To replace a mitered hip slate, remove the existing damaged slate and cut the new slate to replicate the existing slates original configuration. Install slate as previously described in this paragraph. Should a flashing system not be observed at the hip reinstall roofing cement to the ship lap joint.

3.4 REINSTALLATION OF ROOF EDGE SLATES

A. Removal and reinstallation of roof edge slates is designated to occur at areas where slates were removed to replace the low slope roof system or railing system.

B. Install new underlayments and associated components as specified in this section

C. The slate exposure and off set patterns will replicate the existing slate installation.

D. Install one-quarter inch by one- and one-half inch (¼" x 1-½") pressure treated wood lathe starter strip with nails spaced six inches (6") on-center. Locate lathe as necessary to provide proper slope of starter course with respect to subsequent courses.

E. Install starter course of one foot one- and one-half inches (1'-1½") long (exposure plus three inches [3"]).

F. Begin starter course with a half width slate at each end to allow for half (½); full offset between starter and proceeding course. The starter course shall extend three inches (3") beyond the roof flashing metal as shown on the drawings.

G. Install remaining slates in the previously specified pattern and exposure.

END OF SECTION

I:\839440\02 Design\specs\839440 07 31 26 Slate Shingle Repairs.docx

THIS PAGE IS INTENTIONALLY LEFT BLANK.

ELASTOMERIC ROOFING AND FLASHING

SECTION 07 53 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 06 10 00 – Rough Carpentry
B. Section 07 62 00 – Sheet Metal Flashing and Trim
C. Section 26 00 00 – Temporary Mechanical/Electrical Disconnects

1.3 SCOPE OF WORK

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:

A. Coordinate this work with all other trades to provide orderly progress of work.

B. Supply all shoring and protection necessary to protect the building areas, building systems and landscape areas.

C. Coordinate the disconnection, removal, relocation, and reinstallation of mechanical units, conduits, ductwork, equipment, etc.

D. 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.

E. At Roof Areas A, B, D, and E1, remove and dispose of existing roofing materials, including but not limited to, elastomeric membrane, insulation, and associated components down to the existing wood deck to remain.

F. At Roof Area E2, remove and dispose of existing roofing materials, including but not limited to, rolled asphalt roofing, fiberboard, insulation, and associated components down to the existing wood deck to remain.

G. At Roof Area E2, remove and replace existing skylights as indicated on the Contract Drawings. Install a fall protection screen at these units.

H. 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.

I. Clear roof surfaces of debris by sweeping and vacuuming methods as required to remove all debris from the metal roof deck surface.

J. Remove, protect and/or store all materials and assemblies to be reinstalled.

K. Coordinate the complete roof system installation with the raising of mechanical equipment as well as all other work identified with Section 26 10 00 – Temporary Mechanical/Electrical Disconnects.

L. Coordinate with Section 06 10 00 – Rough Carpentry for the installation of wood blocking and plywood sheathing required to provide a minimum eight-inch (8”) flashing height and properly terminate the roof membrane and flashings as indicated on the Contract Drawings.

M. Furnish and install a new adhered single-ply elastomeric roofing assembly including, but not limited to, coverboard, tapered insulation, air/vapor retarder, and baseboard over existing wood deck at Roof Areas A, B, E1, and E2.

N. Install new adhered single-ply elastomeric roof system including, but not limited to, baseboard, and associated components over existing wood deck at Roof Area D. New closed cell spray foam insulation is to be installed within existing wood rafters as indicated in the Contract Documents. Contractor to coordinate interior access with the Owner.

O. Coordinate the installation of 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 with Section 07 62 00 – Sheet Metal Flashing and Trim.

P. Coordinate the installation of new gutter, downspout and splash blocks where indicated on the contract documents. Splash blocks to be installed at all downspout discharge location with Section 07 62 00 Sheet Metal Flashing and Trim.

Q. Remove existing wood roof access door and replace existing door leafs, frames, hardware, and thresholds as required to raise threshold height a minimum of eight

inches (8”) above new finished roof elevation. New door to match the existing size and configuration.

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

1.4 JOB CONDITIONS

A. The new roof system shall be installed to meet the intent of FM Global uplift requirements as shown in the Contract Drawings.

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.

1.5 SUBMITTALS

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

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 the intent of UL 790, Class A and Factory Mutual Class indicated for the field, perimeters, and corners respectively, shall be in conformance with all local and state building codes, and is accepted by the manufacturer for the required warranty.

C. The Contractor shall provide adequate staging and protection of the interior building as required to perform the work. Provide submittals for site protection and staging as specified in Section 01 33 00 – Shop Drawings and Submittals.

D. 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.

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 inch by thirty-six inch [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. Provide attachment layout and spacing for cricket insulation layout. Contractor to confirm adhesion testing during the roof renovations to meet the intent of the FM Global system requirements indicated for the field, perimeters, and corners respectively, per roof area.

H. 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.

1.6 QUALITY CONTROL

A. Roofing Contractor's Experience Requirements: The Roofing Contractor shall be experienced, to the satisfaction of the Owner and Engineer, in the installation of warranted, cold-process, multiple-ply, roofing systems. Minimum required experience involves the successful installation of at least five (5) projects of similar scope, size and complexity where the Roofing Contractor has installed the Manufacturer's cold-process, modified-bitumen roofing assemblies, within the past three years (3 yrs.). All such references must be available for inspection by the Owner and Engineer, as may be requested. Provide the following submittal information:
   1. Name, address and contact person of each of the five (5) projects being used as a reference.
   2. Copies of Roofing Material Manufacturer's warranties, showing dates and square footage for each of the five (5) referenced projects.
   3. Written letter of "Certification" or "Approval" from the Roofing Materials Manufacturer showing that the Roofing Contractor has been "Certified" or "Approved" by the Roofing Materials Manufacturer for a minimum of three years (3 yrs.).

1.7 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. 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.

1.8 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 two years (2 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 (2 yrs.) 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 two-year (2-yr.) warranty shall run concurrent with the roofing system's manufacturer's twenty-year (20-yr.) warranty.

B. Roofing Systems Manufacturer's Warranty: The roofing manufacturer shall guarantee 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 year (20 yrs.), from the date of final acceptance of the roofing system. The warranty shall be a twenty-year (20-yr.), no dollar limit, non-prorated total system labor, and material warranty, for wind speeds up to seventy-five miles per hour (75 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) laminated to a 0.055 mil non-woven polyester fleece-backing, as manufactured by Carlisle SynTec Systems, Inc., Versico Incorporated, or approved equal.

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

PHYSICAL PROPERTY	TEST METHOD	SPECIFICATIONS
Tolerance on Nominal Thickness, %	ASTM D 751	+/- 10
Thickness over Fleece, min.	ASTM D4637	.060 mil

PHYSICAL PROPERTY	TEST METHOD	SPECIFICATIONS
Breaking Strength, min, lbf	ASTM D 751	210
Elongation, Ultimate, min, %	ASTM D 412	480
Tear Strength, min, lbf	ASTM D 751 (B Tongue Tear)	45
Brittleness point, max, °F	ASTM D2137	-67
Puncture Resistance, Joules	ASTM D5635	27.5
Resistance to Heat Aging Properties after 4 weeks @ 240°F	ASTM D 573	
Breaking Strength, min, lbf	ASTM D 751	200
Elongation, Ultimate, min, %	ASTM D 412	225
Linear Dimensional Change, max, %	ASTM D 1204	-0.7
Ozone Resistance Condition after exposure to 100 pphm Ozone in air for 168 hours @ 104°F (40°C) Specimen wrapped around 3" mandrel	ASTM D 1149	No Cracks
Resistance to Water Absorption After 7 days immersion @ 158°F (70°C) Change in mass, max %	ASTM D 471	2.0
Resistance to Outdoor (Ultraviolet) Weathering Xenon-Arc, 4000 hours exposure, 176°F (80°C) black panel temperature	ASTM D 26	No Cracks No Crazing

C. Stripping shall be six-inch (6") or nine-inch (9") wide semi-cured EPDM self-adhering seam cover strips (minimum thickness: 60 mils.) as manufactured by the approved roof membrane manufacturer.

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 specified in 2.1B 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 CONTINUOUS ROOF INSULATION

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. Flat stock and tapered isocyanurate insulation shall be skinned with factory-applied fiberglass bituminous felt as manufactured by Celotex, Johns Manville, Firestone, or as supplied by the membrane manufacturer as required to meet membrane manufacturer's requirements and warranty. The isocyanurate insulation board shall conform to ASTM Specification C 1289, Type II, Class 1, Grade 2 (20 psi minimum).
1. The isocyanurate insulation shall have an area weighted aged R-Value of R-30 at 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. 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.
3. 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 (18") wide and one- and five-eighths inch (1-⅝") thick, 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 3 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 SPRAY POLYURETHANE FOAM INSULATION

A. Closed-Cell Polyurethane Foam Insulation: ASTM C 1029, Type II, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E 84.
   1. Minimum density of 1.5 lb./cu. ft., thermal resistivity of 6.2 deg F x h x sq. ft./Btu x in. at 75 deg F.

2.4 COVERBOARD

A. Coverboard insulation shall be one-half inch (½") minimum thick high density isocyanurate insulation board as required by the roofing manufacturer. 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 100 psi in accordance with ASTM D2126. Water absorption shall be three percent (3.0%) or less in accordance with ASTM C209.

2.5 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-component, 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 Firestone, Insta-Stik Professional Roofing Adhesive as manufactured by Insta-Foam Products, Inc., Olybond by Olympic or an approved equal.

2.6 BASEBOARD

A. Baseboard for use on wood deck areas shall be one-half inch (½") minimum thick, Type X, cellulosic fiber-reinforced, moisture resistant gypsum core board such as USG Securock Brand UltraLight or approved equal as required by the roof manufacturer.

B. The base boards shall be a maximum of four feet by eight feet (4’ x 8’) in size and shall conform to E84. Boards shall be square, uniform in dimension, and approved in writing by the membrane manufacturer. A copy of the written acceptance shall be forwarded to the Engineer.

C. Joint tape shall be recommended by the coverboard manufacturer and shall have a minimum width of four inches (4”).

2.7 AIR/VAPOR RETARDER

A. Self-adhering air/vapor retarder shall be thirty-two millimeters (32 mil) minimum composite consisting of rubberized asphalt and polyethylene, polypropylene, or polyester sheet as require by the membrane manufacturer such as V-Force Vapor Barrier Membrane as manufactured by Firestone, 725TR as manufactured by Carlisle Syntec, Versico 725 as manufactured by Versico, or approved equal. Utilize compatible primer with asphaltic coating.

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

2.9 STEEL DOORS AND FRAMES

A. New door to match existing size and configuration of existing.

B. Commercial quality steel Zinc-Iron Alloy-Coated by hot-dip process designation to ASTM A653/A653M-95 ZF100 (A40) ASTM A755/A755M-95, ASTM A924/A924M - 95 known commercially as Galvannealed.
   1. Provide UL B-Label Doors where indicated on the Contract Drawings, or as required to match existing door to be replaced.
   2. Metal doors shall be one- and three-quarter inch (1-¾”) thick, 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 G90 galvanized bonderized steel conforming to ASTM A924. Door width shall be as required to fit within the masonry opening.
   3. 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. Doors with continuous truss sheets three inches (3”) on-center both vertically and horizontally will also be accepted. Provide 16-gauge stile channels and 14-gauge horizontal stiffener channels at top and bottom of doors welded to face sheets. All hollow portions of doors shall be completely

filled and insulated with mineral rock wool or fully bonded polystyrene or approved equal and shall have a minimum R-Value of R-8 for the door. 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 welded to face sheets, 16-gauge, sealed against water.

4. Doors shall be prepared and reinforced to receive door hardware in accordance with the approved door hardware schedule and template.
5. Where surface mounted hardware is to be applied, doors shall have reinforcing plates only. All drilling and tapping shall be done in the field.
6. Minimum gauge for hardware reinforcing plates shall be as follows:
   a. Hinge and pivot reinforcements: 7-gauge.
   b. Reinforcements for lock face flush bolts, concealed holders concealed or surface mounted closers: 12-gauge.
   c. Reinforcements for all other Surface-mounted hardware: 14-gauge.
7. 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.
8. Provide narrow lites as indicated in the Contract Documents.
9. Hollow metal doors shall be manufactured by Curries, Ceco Doors, Steelcraft, or equal.
10. All doors and frames shall be primed in factory with one (1) coat of baked-on rust inhibiting prime paint, compatible with the galvanizing and capable of passing one hundred twenty-hour (120-hr.) salt spray test in accordance with ASTM B 117 and a two hundred fifty-hour (250-hr.) humidity test in accordance with ASTM D 1735 and ANSI A-151.1-19.
11. Exterior Finish Coats (Field Applied Paint) two (2) coats minimum:
    a. Exterior Semi-Gloss Acrylic Direct to Metal Polyurethane Enamel (if self-priming), or Exterior Full-Gloss Alkyd Enamel.
    b. Or as otherwise recommended by paint manufacturer for application over galvanized and other ferrous metal surfaces.
    c. Contractor to include custom coloring in the bid and scheduling. Color to be selected by Owner.

2.10 VISION LITES FOR DOORS

A. Factory Glazing: The intent is for vision lites to match the existing size and location for the replacement door.
   1. Tempered glass shall be one-quarter inch (¼") thick conforming to the quality and strength requirements of ASTM Specification C1048 (kind FT). Tempered glass shall also conform to ANSI Z97.1 Specifications.
   2. 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.

B. Lites in Exterior Doors: Allow for thermal expansion.

C. Factory glazed with PVC stops painted to match door panel finish.

2.11 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for door to comply with requirements in this Section, door hardware sets indicated in door and frame schedule, and door hardware sets indicated in Section 3.07 Hardware Schedule.
   1. Hardware Schedule: Provide quantity, item, 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: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in Section 3.07 Hardware Schedule. Products are identified by

2.12 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.

B. Gauges specified herein are U.S. Standard for ferrous metals, and Brown and Sharpe for non-ferrous metals. Gauges and thickness of materials shown or specified are the minimum. Materials shall conform to the requirements specified for the particular item, and where these requirements are not specified in detail, the materials shall be suitable for the intended usage of the item.

C. 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. ANSI 156.1 Butts and Hinges (Grade 1)
   2. ANSI 156.13 Mortise and Locks and Latches (Grade 1)
   3. ANSI 156.3 Exit Devices (Grade 1)
   4. ANSI 156.4 Door Controls- Closers
   5. ANSI 156.7 Template Hinge Dimensions
   6. ANSI 156.8 Door Controls- Overhead Holders
   7. BHMA 1301 Materials and Finishes
   8. BHMA 1201 Auxiliary Hardware

D. 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.

E. Acceptable Manufacturers: Note that even though an acceptable substitute manufacturer may be listed, the product must provide all the functions and features of the specified product, or it will not be approved.

F. Finish of all hardware items shall be ANSI Code 630, Satin Stainless Steel (US32D) unless otherwise noted.

G. Exposed fasteners shall be stainless steel as recommended by the hardware manufacturers for each hardware item specified.

NOTE: For all items listed below, product numbers are listed from the Scheduled Manufacturer for the purposes of establishing type and quality only.

2.13 CONTINUOUS HINGES

A. Continuous, Gear-Type Hinges: Extruded-aluminum, pin less, 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 (1) 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.

2.14 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 Ingersoll-Rand 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; 351 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 on non-public side of door, unless otherwise indicated.
1. Mounting: heavy-duty, parallel arm, unless otherwise indicated.
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.

2.15 DOOR GASKETING

A. Door Gasketing: BHMA A156.22; air leakage not to exceed 0.50 cfm per foot of crack length for gasketing other than for smoke control, as tested according to ASTM E 283; with resilient or flexible seal strips that are easily replaceable and readily available from stocks maintained by manufacturer.
1. Products: Subject to compliance with requirements, provide products by one (1) of the following:
a. Pemko Manufacturing Co.
b. Reese Enterprises.
c. Zero International.

B. Rigid, Housed, Perimeter Gasketing: Sponge silicone gasket material held in place by aluminum housing; fastened to frame stop with stainless steel screws.
1. Products: Subject to compliance with requirements, provide one (1) of the following:
a. Pemko Manufacturing Co.; Model 305.
b. Reese Enterprises; Model DS370.
c. Zero International; Model 139A.

C. General: Provide continuous weather-strip gasketing on exterior doors. Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.
   1. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
   2. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
   3. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

D. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

E. Door Sweeps: Gasket material held in place by flat metal housing or flange; surface mounted to face of door with screws.
   1. Gasket Material: Neoprene.
   2. Housing Material: Aluminum.

2.16 THRESHOLD

A. Exterior thresholds: BHMA A156.21; fabricated to full width of opening indicated.
   1. Manufacturers: The basis of design is provided by National Guard Products, Inc., however the following manufacturers may be submitted for review, subject to compliance:
      a. Hager Companies.
      b. Pemko Manufacturing Co.
      c. Reese Enterprises.

B. Thresholds for use at penthouse doors shall have an extended rear leg with integral weatherstripping set such as Pemko 177AT.

C. Fasteners for securing to concrete or masonry substrates shall be flat head type, one-quarter inch (¼") diameter, self-tapping masonry screws. Shank shall be of sufficient length to penetrate the substrate two-inch (2") minimum.

2.17 DOOR PULLS

A. Door pulls shall be anodized aluminum, eight- and one-half inch (8-½") high by six-inch (6") width with a projection of three- and one-half inches (3.5") and a one-inch (1") grip diameter as provided by the door manufacturer.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. Burns Manufacturing Incorporated.
      b. Hager Companies.
      c. IVES Hardware; an Ingersoll-Rand Company.
      d. Rockwood Manufacturing Company.

2.18 SILENCERS

A. Silencers for Metal Door Frames: Grade 1; neoprene or rubber; minimum diameter one-half inch (½"); fabricated for drilled-in application to frame.

2.19 LOCK CYLINDERS

A. High-Security Lock Cylinders: BHMA A156.30; Grade 1; Type M, mechanical; permanent cores that are removable; face finished to match lockset.

B. Cylinders: Manufacturer's standard tumbler type, constructed from brass or bronze, stainless steel, or nickel silver, and complying with the following:
1. Number of Pins: Six.
2. Mortise Type: Threaded cylinders with rings and straight- or clover- type cam.
3. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
a. High-Security Grade: BHMA A156.5, Grade 1A, listed and labeled as complying with pick- and drill- resistant testing requirements in UL 437 (Suffix A).
4. Basis of Design Product: Subject to compliance with requirements, provide SARGENT Manufacturing Company, an ASSA ABLOY Group company; Signature or comparable product by one of the following:
a. Von Duprin, an Ingersoll-Rand company.
b. Corbin.

C. Permanent Cores: Comply with the following:
1. Small Format Interchangeable Cores shall be Medeco Keymark X4.
2. Cores shall be ordered by the Contractor and sent directly to the Owner. The Owner will install the permanent cores.

D. Construction Keying: Comply with the following:
1. Construction Cores: Provide construction cores that are replaceable by permanent cores. Provide twelve (12) construction temporary change keys and two (2) temporary core control keys.
a. The construction cores will be replaced with permanent cores by the Owner.

E. Keying System: Factory registered, complying with guidelines in BHMA A156.28, Appendix A. Incorporate decisions made in keying conference, and as follows:
1. Existing System: Grand master key locks to Owner's existing system.

F. Keys: Nickel silver.
1. Quantity: In addition to one extra key blank for each lock, provide the following:
a. Cylinder Change Keys: Three (3).
b. Master Keys: Five (5)

c. Grand Master Keys: Five (5)
d. Great-Grand Master Keys: Five (5)

2.20 FABRICATION

A. Manufacturer's Nameplate: Do not provide products that have manufacturer's name or trade name displayed in a visible location except in conjunction with required fire-rated labels and as otherwise approved by the Engineer.
1. Manufacturer's identification is permitted on rim of lock cylinders only.

B. Base Metals: Produce door hardware units of base metal, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18. Do not furnish manufacturer's standard materials or forming methods if different from specified standard.

C. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to commercially recognized industry standards for application intended, except aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.
1. Concealed Fasteners: For door hardware units that are exposed when door is closed, except for units already specified with concealed fasteners. Do not use through bolts for installation where bolt head or nut on opposite face is exposed unless it is the only means of securely attaching the door hardware. Where through bolts are used on hollow door and frame construction, provide sleeves for each through bolt.
2. Steel Machine or Wood Screws: For the following fire-rated applications:
a. Mortise hinges to doors.
b. Strike plates to frames.
c. Closers to doors and frames.
3. Steel Through Bolts: For the following fire-rated applications unless door blocking is provided:
a. Surface hinges to doors.
b. Closers to doors and frames.
c. Surface-mounted exit devices.
4. Spacers or Hex Bolts: for through bolting of hollow-metal doors.

2.21 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. 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.

C. 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

D. Fasteners for terminating roof membrane and flashing at concrete or masonry substrates shall be minimum one- and one-half inch (1-½") long 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.

E. Sheet metal to wood blocking connections and mechanical unit securement (exposed securement): Self-drilling, self-tapping, Number 10, stainless steel hex-head screws, one- and one-half inch (1-½") long, equipped with metal capped EPDM washers.

F. 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.

2.22 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.

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 (1) 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 asphaltic coating. Scrape and sweep clean loose asphaltic coating material. 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.

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.

C. Tape cracks and joints in deck to prevent adhesive seepage into building interior.

3.4 BASEBOARD INSTALLATION

A. Install baseboard with long joints in continuous, straight lines, perpendicular to roof slopes, with end joints staggered between rows. Tightly butt baseboards together.

B. Mechanically fasten the layers of base board and secure to roof deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type. Fasten insulation to resist uplift pressures to meet the intent of **FM Global Requirements** to achieve the required wind uplift results.

C. Review underside of roof deck for the potential of existing conduits.

3.5 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.

3.6 INSTALLATION OF ADHERED INSULATION SYSTEM

A. The multi-layer insulation system shall be installed on properly prepared, clean, dry surfaces. Finished system will be capable of providing a minimum of 60 PSF field uplift resistance, with prescriptive perimeter and corner enhancements as required. compliance for installation of the specified assembly over the roof deck(s).

B. 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.

C. The baseboard shall receive the self-adhered vapor retarder system prior to the installation of the insulation system

D. Adhere insulation on the roof areas with the Manufacturer's cold adhesive applied in strict accordance with the adhesive manufacturer's printed installation instructions to achieve the required warranty. Install the insulation boards and immediately "walk" the system into place to spread the adhesive for maximum contact. Stagger all joints. Continue to "walk" the insulation board every five to seven minutes (5-7 min.) until firm adhesion is achieved. Ballast the boards to prevent cupping. Redistribute ballast to ensure full bonding of the system. Ensure that boards are totally adhered prior to application of coverboard.

E. Coordinate installation of the manufacturer's approved vapor barrier and adhere all remaining insulation boards as designated in this section.

F. Install subsequent insulation layers in full applications of the manufacturer approved adhesive at the adhesive manufacturer's application rate. Stagger joints of the insulation at the midpoint in the long dimension. Stagger joints between insulation layers twelve inches (12") minimum. Gaps between boards shall not exceed one-eighth inch (⅛").

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. Utilize tapered edge strips and fiberboard fillers at drain location. Step taper the surrounding insulation system down to the drain bowl location. Provide maximum sumps in conjunction with the tapered insulation system.

I. Utilize tapered edge strips along curb units and large roof penetrations.

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

K. Insulation boards set in cold-process adhesive shall immediately be "walked-in" to assure full embedment. Poorly adhered boards shall be removed and replaced at no additional cost to the Owner.

L. Install specified fiberboard cants at all rising wall locations.

3.7 INSTALLATION OF INSULATION FOR FRAMED CONSTRUCTION

A. Spray-Applied Insulation: Apply spray-applied insulation according to manufacturer's written instructions. Do not apply insulation until installation of pipes, ducts, conduits, wiring, and electrical outlets in walls is completed and windows, electrical boxes, and other items not indicated to receive insulation are masked. After insulation is applied, make flush with face of studs by using method recommended by insulation manufacturer.

3.8 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 min.) 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.

3.9 FULLY-ADHERED MEMBRANE INSTALLATION

It is the intent of this Specification Section to provide the Owner with a new, fully adhered membrane, one hundred percent (100%) bonded to the insulation, of sufficient bond strength to resist the uplift pressures indicated for the field, perimeters, and corners respectively, in conformance with all local and state building codes, and is accepted by the manufacturer for the required warranty uplift pressures as defined in FM Data Sheet 1-28, current edition.

A. 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.

B. Inspect surface of insulation prior to installation of roof membrane. 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.

C. 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, or whichever is more restrictive. 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.

D. 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 onto the substrate and allow the adhesive to cure or rise and apply the bonding adhesive again to both the sheet and the substrate per the manufacturer's requirements. Roll the membrane with a thirty-inch (30") wide, 150 lb. weighted segmented steel roller to set the membrane into the adhesive, being careful to avoid wrinkles. Brush down the bonded half 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. No wrinkles shall be allowed in the completed application. Wrinkled sheets shall immediately be removed and replaced and not patched. Do not apply bonding adhesive in areas that are to be spliced to flashings or adjacent sheets. At end laps, membrane shall be butted together and overlay with six-inch (6") wide cured cover strip.

E. 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. Clean all seam areas at least twice (2x) in two (2) separate applications with new rags and cleaner each time. 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-inch [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. Lap sealant must be set daily as the work progresses.

F. 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.

G. 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 4") wood member with ballast on top. Ballast should be approximately twenty pounds per linear foot (20 lb./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.

3.10 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.

3.11 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 foot (20 lb./l.f.). When restarting work, remove all sealant, membrane, insulation fillers, etc. from the work area. Do not 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.

3.12 MEMBRANE FLASHING

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.

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

B. 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.

C. 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.

D. 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. Clean all seam areas at least twice (2x) in two (2) separate applications with new rags and cleaner each time. 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.

E. 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-inch (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 (2") wide 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 (6") wide 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.

F. 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.

G. 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.

H. Strip in all metal flanges such as gravel stops and vents with EPDM. Two-ply stripping to be used by applying a six-inch (6”) wide strip of flashing over which a nine-inch (9”) wide 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-inch (6”) minimum.

I. 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-inch (3”) minimum on each side of the lap.

J. Strip in all field seams with EPDM with a single six-inch (6”) wide EPDM stripping membrane. 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-inch (4”) minimum.

K. 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

L. 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 preformed 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.

3.13 UNIT CURBS

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

B. Mechanical and electrical work requiring extension in order to raise and support units shall be completed by a licensed tradesman.

3.14 WALKWAY PADS

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

3.15 FRAME AND DOOR INSTALLATION

A. Doors shall be installed without forcing or distortion so that sills and heads are level and jambs are plumb. Joints between metal door frame and metal members shall be set in mastic of type recommended by door manufacturer to provide completely watertight joints. Excess mastic shall be removed before hardening. After installation each door shall be checked for proper operation and adjusted as necessary. Metal surface shall be cleaned and any staining or discoloring of finish shall be restored or unit replaced.

B. Door Anchorage: Door anchorage shall be according to manufacturer's written instructions, but in no case less than that required to sustain the required structural wind load.

C. Anchors: Anchors shall be equally spaced around as required to secure structural load, but in no case less than six (6) anchors be used on a jamb, and not less than three (3) anchors used on head. Set fasteners through wood blocks placed between door jambs and wall framing. Alternately, factory applied steel spacers may be used.

3.16 HARDWARE INSTALLATION

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. Hardware shall be located in accordance with DHI-04. When approved, slight variations in locations or dimensions will be permitted.

D. Door-closing devices shall be installed and adjusted in accordance with the templates and printed instructions supplied by the manufacturer of the devices.

E. Adjust and check each operating item of hardware and each door, to insure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly.

3.17 HARDWARE SCHEDULE

A. Hardware Set No. 01
1. Two (2) Continuous Hinge.
2. Two (2) Mortise Lockset with Construction Core.
3. Two (2) Closer.
4. Two (2) Weatherstripping Set.
5. Two (2) Brush Seal.
6. One (1) Threshold.

3.18 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 C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

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

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

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

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated, 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 C 1193, unless otherwise indicated.
4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.
5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 8C in ASTM C 1193.
    a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

3.19 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.

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

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

F. 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.

G. 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

SHEET METAL FLASHING AND TRIM

SECTION 07 62 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 1 for additional information.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Section 07 53 00 – Elastomeric Roofing and Flashing
B. Section 26 10 00 – Temporary Mechanical/Electrical Disconnects

1.3 DESCRIPTION OF WORK

A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, including but not limited to the following:
   1. 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.
   2. Provide all necessary underlayment, miscellaneous flashing, attachment clips, and closure members to ensure a weathertight installation.
   3. Install new shop fabricated metal roof fascia system and associated components as shown on the Contract Drawings at designated locations.
   4. Install new sheet metal flashings and trim as shown on the Contract Drawings, and as required to properly terminate the membrane.
   5. Install counter-flashings at roof membrane terminations.
   6. Install skirt flashings around roof top equipment units.
   7. Install blind nailers at all vertical roof membrane and sheet metal termination locations.
   8. Install two-piece sheet metal closure caps at pourable sealer box locations.
   9. Fabricate and install new downspouts and gutters at designated locations.
   10. Coordinate installation of wood blocking with Section 07 53 00 – Elastomeric Roofing and Flashing.
   11. Complete all associated work.
   12. Clean and restore all areas affected by the work.

1.4 JOB CONDITIONS

A. Contractor to coordinate the roof installation with masonry work being performed under a separate contract. Installation of sheet metal flashings and counterflashings to be coordinated with masonry work being installed under a separate contract.

1.5 PERFORMANCE REQUIREMENTS

A. General: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing, rattling, leaking, and fastener disengagement.

B. Install roof edge flashings capable of resisting the Wind Zone forces required by Code according to recommendations in FMG Loss Prevention Data Sheet 1-49.

C. Thermal Movements: Provide sheet metal flashing and trim that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of sheet metal and trim thermal movements. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
   1. Temperature Change (Range): 120ºF, ambient; 180ºF material surfaces.

D. Water Infiltration: Provide sheet metal flashing and trim that do not allow water infiltration to building interior.

1.6 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. 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.

C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:
   1. Sheet Metal Flashing: Twelve inches (12") long Include fasteners, cleats, clips, closures, and other attachments.
   2. Trim: Twelve inches (12") long Include fasteners and other exposed accessories.
   3. Accessories: Full-size Sample.

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

1.7 MOCK-UP TEST AREAS

A. Before full scale work is commenced, execute the following work for trial work areas to be reviewed by the Owner as to acceptability of color, texture, and appearance match with the existing construction. Test areas will be at locations established by the Owner.
   1. Two linear feet (2 LF) of each roof edge metal configuration.

B. 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.

C. Each mock-up shall be a minimum of two feet by two feet (2' x 2') where applicable and shall include all components of the roofing system.

1.8 QUALITY ASSURANCE

A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

B. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01.
   1. Meet with the Owner, Designer, Owner's insurer if applicable, Installer, and installers whose work interfaces with or affects sheet metal flashing and trim including installers of roofing materials, roof accessories, and roof-mounted equipment.
   2. Review methods and procedures related to sheet metal flashing and trim.
   3. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.
   4. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.9 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.

1.10 COORDINATION

A. Coordinate installation of sheet metal flashing and trim with interfacing and adjoining construction to provide a leak proof, secure, and noncorrosive installation.

1.11 WARRANTY AND GUARANTEE

A. 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 two years (2 yrs.) and shall be signed by a Principal of the Contractor's firm and sealed if a corporation.

B. Finish Warranty: Twenty years (20 yrs.) for aluminum sheets.

PART 2 - PRODUCTS

2.1 SHEET METALS

A. Plain red copper shall conform to ASTM B370 Temper H00 (1/8 hard), cold-rolled except where temper 060 is required for forming. Sixteen-ounce per square foot (16 oz./sq. ft.) minimum unless otherwise noted. Copper sheet metal for the project shall be Temper H00 unless required to meet conditions where forming is required to match uneven surfaces; these conditions shall be reviewed for approval of use of 060 soft copper or lead prior to fabricating. Refer to fabrication schedule.

B. Solder for copper shall be fifty percent (50%) block tin and fifty percent (50%) pig lead conforming to ASTM Specification B 32, Grade SN 60.

C. Flux for copper shall conform to ASTM B 32, Type IS.

D. Aluminum shall be 0.032", 0.040'', 0.050", and 0.063" thick Kynar 500 Fluoropolymer painted aluminum as shown on the Contract Drawings. Color(s) to be selected by the Owner. Aluminum shall have a mill finish for concealed items. Aluminum shall be 3003 alloy, H-14 temper.

E. 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.

F. 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.

G. Clamps shall be screw adjustable stainless-steel hose clamps with a minimum three-eighth inch (⅜") band width.

H. Rivets shall be three-sixteenth inch (3/16") diameter stainless steel as required by the metal being secured.

I. Sheet metal flashings shall be shop fabricated. All breaks, bends, and hems shall be uniform, clean, straight lines.
1. All aluminum joints shall be adequately overlapped, back-sealed, and riveted.
2. Flanges shall be four-inch (4") wide minimum.
3. Drip edges shall be hemmed three-quarter inch (¾") wide and break at a thirty degree (30°) angle.
4. Clips shall be two-inch (2") wide.
5. All flanges to be covered with roofing or flashing membranes shall have a one-quarter inch (¼") minimum hem on the edge.
6. All sheet metal joints shall have six-inch (6") wide cover and backer plates.
7. Blind nailers shall be four-inches (4") wide folded to a two-inch (2") wide final dimension.
8. 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.
9. Maintain equal fascia height around entire perimeter of each roof area and where fascias abut.
10. Roof fascia profiles to be an ANSI/SPRI shop fabricated profile to meet project uplift requirements.

2.2 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 Stainless Steel: ASTM B 32, Grade Sn60, with acid flux of type recommended by stainless-steel sheet manufacturer.

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

D. Elastomeric Sealant: ASTM C 920, 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. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.

F. Slip sheet shall be fifteen-pound (15 lb.) red rosin paper.

2.3 FABRICATION SCHEDULE

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. 0.032" Thick Coated Aluminum:
   a. Blind Nailers.
2. 0.040" Thick Coated Aluminum:
   a. Skirt Flashing.
   b. Downspouts.
   c. Two-piece roof fascia.
3. 0.050" Thick Coated Aluminum:
   a. Two-inch (2") Wide Clips.
   b. Gutters.
   c. Hook Strips.
   d. Cleats.
4. Sixteen-ounce (16 oz.) Copper
   a. Counterflashing.
   b. Threshold Flashing.
   c. Pourable Sealer Boxes.
   d. Pourable Sealer Box Caps/Covers.
   e. Blind nailer.
5. Twenty-ounce (20 oz.) Copper
   a. Clips.
6. Twenty-four ounce (24 oz.) Copper
   a. Hook Strip.

2.4 FASTENERS

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 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 by Rawl, Star Fasteners, Unifast, or approved equal. Anchors shall be of sufficient length to penetrate the substrate one and one-quarter inch (1¼") minimum.

C. Sheet metal to wood blocking connections and mechanical unit securement (exposed securement): Self-drilling, self-tapping, Number 10, stainless steel hex-head screws, one and one-half inch (1½") long, 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") long.

E. Fastens for securement of the pre-engineered 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 felt 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 (1¼") 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") deep 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 (< 40ºF).

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 (1½") 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 ROOF FASCIAS

A. Roof fascia profiles to be an ANSI/SPRI shop fabricated profile to meet project uplift requirements.

B. Confirm that the roof membrane extends down, beyond the transition of the wood blocking as shown on the contract drawings.

C. Should the new metal edge not provide a minimum of one and one-half-inch (1½") coverage over the transition beyond the wood blocking, a two-piece flashing system, of equal dimension, shall be installed around the perimeter of the roof edge to provide a uniform height. Hook strips shall be secured at three inches (3") on-center, staggered about the center line. Backer plates shall be installed between each seam. The fascia metal shall extend a minimum of two inches (2") below the pre-manufactured metal.

D. Install a sacrificial piece of roof membrane between the finished roof edge membrane, and the sheet metal hook strip. The membrane shall be sealed to both the finished roof surface, and the metal hook strip to prevent water infiltration under the detail.

E. Secure the hook strip per the manufacturer's recommendations. Confirm a uniform, level reveal around the perimeter of the building.

F. Where the edge metal meets a rising wall, coordinate the installation of a blind nailer at these locations to terminate the roofing system.

3.4 ROOF FLASHING INSTALLATION

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. 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.

C. 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 where shown in the Contract Drawings and as specified herein.

B. Secure counter-flashings with clips where indicated. Fabricate and secure clips as previously specified.

3.7 BLIND NAILERS

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

B. Fold blind nailer to two-inch (2”) wide 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 (30°) 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.

C. Coordinate with installation of roofing flashing termination bar.

3.10 POURABLE SEALER BOXES

A. Fabricate and install pourable sealer boxes as shown on the contract drawings, and referenced in this section, and Section 07 53 00 – Elastomeric Membrane Roofing and Flashing.

B. The seams of the sheet metal flashing shall be soldered to provide a watertight detail, and where practical, shall extend eight inches above the finished roof surface. Note that it is the intent of this project to provide pipe wrap details in lieu of pourable sealer boxes when applicable.

C. Seal the lower limits of the penetration prior to the application of the pourable sealer.

D. Provide covers over the pourable sealer boxes, notch around conduits and seal.

3.11 GUTTER AND DOWNSPOUTS

A. Fabricate and install new gutters and downspouts for designated locations to match the existing opening.

B. The hung type of shape indicated and supported on underside by brackets that permit free thermal movement of the gutter. Provide gutters in sizes indicated below, complete with mitered corners, end caps, outlets, brackets, and other accessories necessary for installation. Reinforce the outer edge of gutter with a stiffening bar not less than three-quarter inch by three-sixteenths inch (¾" x 3/16") of material compatible with gutter. Fabricate gutters in sections not less than eight feet (8'). Lap the sections a minimum of one inch (1") in the direction of flow or provide with concealed splice plate six-inch (6") minimum. Join the gutters, by riveted and soldered joints. Provide expansion-type slip joints midway between outlets. Install gutters below slope line of the roof so that snow and ice can slide clear. Support gutters on adjustable hangers spaced not more than thirty inches (30") on-center. Adjust gutters to slope uniformly to with high points occurring midway

C. At low sloped roof areas utilize the membrane to flash the gutter opening by adhering the flashing membrane to the gutter flange. Coordinate with Section 07 53 00 – Elastomeric Roofing and Flashing.

D. Terminate the flashing at exposed edges with blind nailers secured with the specified fasteners at six inches (6") on-center over a full bead of sealant. Secure the scupper sleeve by crimping. Fold back blind nailers over fasteners to conceal all fasteners. Provide continuous bead of sealant along edges of blind nailers and tool to shed water.

E. Gutters and downspouts shall be sized as the following:
1. Gutters: Six-inch (6") wide minimum. Height will vary with roof slope.

2. Downspouts: Seven square-inch (7 in^2) minimum.

F. Provide proper venting for downspouts as recommended by SMACNA.

G. Secure downspouts with straps at minimum five feet (5'-0") on-center, provide outlet shoe at discharge level. Downspout straps shall be heavy weight aluminum one-quarter inch (¼") thick by one-inch (1") wide minimum, and shall be secured to the wood blocking, fascia or structure. Dogs shall have twist to eliminate drips over the edge.

H. Screws for downspout straps shall be copper and have one- and one-half inch (1-½") embedment minimum into the substrate.

I. Wire ball strainers for downspout assemblies shall be spun copper wire, 0.018" thick.

3.12 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

PAINTING

SECTION 09 91 23

PART 1 - GENERAL

1.1 IN GENERAL

A. Division 1, 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 one for additional information.

1.2 SCOPE OF WORK

A. This Section includes surface preparation and field painting of exposed exterior items and surfaces including, but not limited to, the following:

1. Exterior wood trim being replaced or that has been damaged. Refer to the Allowance schedule within the Contract Documents for additional information located in Section 01 21 00 – Allowances.
2. Coordinate with Section 06 10 00 – Rough Carpentry.

1.3 PROJECT CONDITIONS

A. Coordinate the work in this Section with the work in other sections to ensure the orderly progress of work.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F. Maintain storage containers in a clean condition, free of foreign materials and residue.

C. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F.

D. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 45 and 95 deg F.

E. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

1.4 REFERENCE STANDARDS

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS (ACGIH)

ACGIH TLV-BKLT	(1991-1992) Threshold Limit Values (TLVs) for Chemical Substances and Physical Agents and Biological Exposure Indices (BEIs)
ACGIH TLV-DOC	Documentation of Threshold Limit Values and Biological Exposure Indices

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910.1000	Air Contaminants

COMMERCIAL ITEM DESCRIPTIONS (CID)

CID A-A-2246	Paint, Latex (Interior)
CID A-A-2904	Thinner, Paint, Mineral Spirits, Regular and Odorless

FEDERAL STANDARDS (FED-STD)

FED-STD-313	(Rev. C) Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities

FEDERAL SPECIFICATIONS (FS)

FS TT-P-29	Paint, Latex
FS TT-P-650	(Rev D) Primer Coating, Latex Base, Interior, White (for Gypsum Wallboard, or Plaster)

SOCIETY FOR PROTECTIVE COATINGS (SSPC)

SSPC-PS Guide 1.09	Three-Coat Oil Base Zinc Oxide Painting System
SSPC-PS Guide 2.00	Guide for Selecting Alkyd Painting Systems
SSPC-PA 1	Shop, Field, and Maintenance Painting of Steel

1.5 SUBMITTALS

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

B. Product Data: Manufacturer's specifications and installation instructions for each product specified.

C. Samples: For each type of finish-coat material indicated.

1.6 QUALITY ASSURANCE

A. Benchmark Samples (Mockups): Provide a full-coat benchmark finish sample for each type of coating and substrate required.

1. Small Areas and Items: Designer will designate items or areas required.
2. Final approval of colors will be from benchmark samples.

1.7 EXTRA MATERIALS

A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Government.

1. Quantity: 1 gal., as appropriate, of each material and color applied.

1.8 GUARANTEES AND WARRANTIES

Upon completion of the work, and prior to final payment, submit a Contractor Guarantee of his/her work to be free from defect in materials and workmanship. This Guarantee shall be for a period of two (2) years, and shall be signed by a Principal of the Contractor's firm, and sealed if a corporation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.

B. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles.

C. Manufacturers' Names (Paints and Stains):

1. Benjamin Moore & Co. (Benjamin Moore).
2. PPG Industries, Inc. (Pittsburgh Paints).
3. Sherwin-Williams Co. (Sherwin-Williams).
4. or approved equal.

2.2 PAINT MATERIALS, GENERAL

A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.

C. Colors: Coordinate with other Sections where color matching is required. Match existing or adjacent materials as indicated, or as selected by the Owner from the Manufacturer’s full range of colors.

2.3 PREPARATORY COATS (PAINT)

A. Exterior Primer: Exterior latex-based or alkyd primer of finish coat manufacturer and recommended in writing by manufacturer for use with finish coat and on substrate indicated.

1. Wood trim: Premium low-VOC, exterior latex primer.

B. Where manufacturer does not recommend a separate primer formulation on substrate indicated, use paint specified for finish coat.

2.4 EXTERIOR FINISH COATS (PAINT)

A. Field Applied Paint (Wood Trim)

1. Exterior Grade High performance Architectural Latex, semigloss or as required by the Owner.

PART 3 - EXECUTION

3.1 APPLICATION

A. Examine substrates and adjoining construction and conditions under which Work is to be installed. Do not proceed with Work until unsatisfactory conditions are corrected.

B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.

1. Provide barrier coats over incompatible primers or remove and reprime.

2. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with SSPC's recommendations.
   a. Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
   b. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by paint manufacturer, and touch up with same primer as the shop coat.

3. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

D. Material Preparation:

1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.

2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.

E. Sand lightly between each succeeding enamel coat.

F. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

1. Omit primer over metal surfaces that have been shop primed and touchup painted.

2. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance.

G. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.

H. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide total dry film thickness of the entire system as recommended by manufacturer.

I. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.

J. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

3.2 CLEANING AND PROTECTING

A. At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.

B. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.

C. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.

1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces.

3.3 EXTERIOR PAINT SCHEDULE

A. Wood Trim:

1. Primer: One coat, 4.0 DFT, or as otherwise specified by the paint manufacturer.
2. Finish Coats: Two coats, 2.0 DFT, or as otherwise specified by the paint manufacturer.

END OF SECTION

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 1 for additional information.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Section 07 53 00 – Elastomeric Roofing and Flashing

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. 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. Perform CCTV survey of leader lines during cleaning. Water test roof drains, pipe connections, and flashings prior to demobilization.
2. 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.
3. Install drain marker flags at all drain locations.
4. 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.
5. Install vent pipe extensions with no-hub connections.
6. 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.
7. All drains installed shall be completed and flashed in the same day’s operation.

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 (1") thick 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 LEADER PIPING

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.

2.3 VENT PIPE EXTENSIONS

A. Vent pipe extensions: 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.

2.4 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, ½-inch (12 mm) diameter by 48 inch (1219 mm) long, with reflective dual-colored reversible ends enabling marking of selected drains.
2. Flexural Strength, minimum: ASTM D 790, 700,000 psi (689 MPa).
3. Impact Strength, minimum: ASTM D 256: 40 ft-lb/in.
4. Marker Base: 1 by 1 by 4 inch (25 by 25 by 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 11-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 F 593 (ASTM F 738M); and nuts, ASTM F 594 (ASTM F 836M).

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 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 (1st) 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.

3.5 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.

3.6 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.

3.7 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.

3.8 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

TEMPORARY MECHANICAL/ELECTRICAL DISCONNECTS

SECTION 26 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 Division 1 for additional information.

1.2 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

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. The work under this Section generally includes the following:
   1. The building is currently abandoned and vacant with most utilities shut off, removed, capped or disconnected. The extent of electrical service in the building is not known therefore, all mechanical and electrical disconnects should follow the procedures in this section unless verified to be out of service or otherwise disconnected.
   2. Provide all temporary protection, lifts, manpower, and equipment to protect the building and its components.
   3. Temporarily disconnect, remove, and support existing roof top fans, vents and mechanical ventilation equipment. Fans and equipment shall be re-installed and reconnected after installation of roofing and flashing of roof curbs. Provide electrical extensions, mechanical ductwork extensions, and roof curb extensions as required to extend the equipment above the new roof surface.
      a. The Contractor is to provide extensions to air-intake locations on mechanical equipment as required by the Owner and to the Owner's satisfaction.
      b. The Contractor will be responsible for replacing the sleepers and conduit straps, which the existing electrical conduits and gas piping are mounted. The contractor shall provide temporarily support for all existing equipment mounted on sleepers, which are being removed during the roof replacement. Any damage to the existing roof top equipment shall be repaired and/or replaced by the contractor at no additional cost to the Owner. This shall include, but not be limited to,

damaged piping and conduits, releasing of Freon gas, and/or containment and disposal of existing cooling agents. The Contractor shall investigate all equipment prior to performing the work and notify the engineer/Owner of potential issues prior to performing the renovations.

4. Clean the existing air plenums and duct work of dust/debris prior to re-installation of fans and roof top equipment. Cleaning will be to a point two feet (2') minimum below the roof line in all ductwork directions.
5. Coordinate the work in this section with the appropriate trades to ensure the proper work sequence.
6. The Contractor shall temporarily disconnect existing piping, raise to allow adequate height for new wood blocking, insulation, and roof edge fascia metal and reconnect, where indicated on Contract Drawings. Contractor shall provide required permit(s) and coordinate with Owner to limit disruption to the building and rooftop equipment. Work shall be performed by licensed plumber.
7. Temporarily disconnect equipment support cables to perform re-roofing operations. Reconnect/secure at end of each work day. Provide adequate tension of support cables to eliminate sag in the cables.
8. Coordinate with Section 07 62 00 – Sheet Metal Roofing and Flashing for fastener and sheet metal flashing specifications.

1.4 JOB CONDITIONS

A. 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.

B. Notify the Owner at least seventy-two hours (72 hrs.) in advance of doing any interior demolition work so that the Owner may remove any portable items, such as furniture, from the area. Fixed items will not be removed and are to be protected by the Contractor.

C. The Contractor shall be responsible for shutting down, removal, temporary support, proper reinstallation with ductwork and electrical extensions as required, and turning on of each mechanical unit by the end of the workday as it relates to the removal and reinstallation of the mechanical equipment. If the mechanical unit is found operational prior to the shutdown procedures, and does not operate upon completion of the work and restarting the equipment, the Contractor will be responsible for repairing/replacing said unit at no additional cost to the Owner.

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. The Contractor shall provide a minimum of two weeks' (2 wks.) notice prior to shutting down any mechanical services.

1.5 SUBMITTALS

A. The Contractor shall submit project literature and samples for the items listed in this section in accordance with Section 01 33 00 – Shop Drawings and Submittals.

B. Submit proposed lead times of materials and coordination efforts associated with replacement of units.

C. Submit proposed temporary shoring details and methods of re-attachment.

PART 2 - MATERIALS

NOT USED.

PART 3 - EXECUTION

3.1 GENERAL

A. All work in this Section shall be coordinated with roof replacement work.

B. All flashing-in of the mechanical work shall be the responsibility of and provided by the Roofing Contractor under Section 07 53 00 – Elastomeric Roofing and Flashing.

C. The Contractor is cautioned to investigate all existing conditions and materials of construction.

D. Follow all applicable local, state and federal requirements regarding construction of scaffolding and protection of the public safety for the work items included in this section. Specific reference should be made to OSHA Construction Safety Regulations. Provide warning lines, barricades, and similar items as required to restrict pedestrian access to hazardous areas. Job site safety shall be the Contractor's responsibility.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.

B. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
   1. Arrange to shut off indicated utilities with utility companies.
   2. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary

services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.

a. Refer to Division 01 Section “Temporary Facilities” for additional information.

3. Protect existing mechanical/plumbing systems and drain lines during the project from freezing temperatures; do not leave exposed to the elements.
4. Partial or whole building shutdowns shall be coordinated so they do not impact occupied spaces during business hours.

3.3 REMOVAL AND REINSTALLATION OF ROOFTOP EQUIPMENT

A. The following is the scope of work required where the existing exhaust fans and mechanical equipment located on the roof must be temporarily disconnected, removed and reconnected.

1. Prior to temporarily lifting of any existing exhaust fans and mechanical equipment, the contractor shall test the exhaust fans and mechanical equipment to ensure they are functioning properly and report any problems to the owner.
2. The Contractor shall coordinate all interruptions of power to existing exhaust fans and mechanical equipment with the Owner prior to any work.
3. The Contractor shall ensure that the power to existing exhaust fans and mechanical equipment is turned off. The Mechanical contractor shall use lockout/tag-out procedures to ensure that the power is not turned on.
4. The Contractor shall temporarily disconnect, remove, and support the existing roof-mounted exhaust fans, mechanical equipment, ductwork and wiring and reconnect the same, as required by job condition, after installation of a new roof and flashing of the roof curbs.
5. The Contractor shall coordinate the heights of the existing mechanical unit curbs and fan curbs with that of the new insulation height to confirm which of the units will require raising and new duct and electrical extensions as required.
6. Extend electrical conduits and wiring, and mechanical systems and ductwork as required due to the increased roof insulation height.
7. Rooftop unit installation shall be coordinated to prevent exposing the interior to inclement weather. Utilize stainless steel capped EPDM washers at all fastener locations.
8. The Contractor shall turn power back on to the exhaust fans and mechanical equipment after work has been completed by all other trades.
9. After the existing exhaust fans and mechanical equipment have been reconnected, the Contractor shall test the exhaust fans and mechanical equipment to ensure they are functioning properly and report any problems to the Owner.

END OF SECTION