

COPY NO. ____

**COMMUNITY CENTER
ROOF REPLACEMENT**

WISCASSET, MAINE

**BIDDING AND CONTRACT REQUIREMENTS AND
SPECIFICATIONS**

JANUARY 2016

11370K

WISCASSET, MAINE
BIDDING AND CONTRACT REQUIREMENTS
AND SPECIFICATIONS
FOR
ROOF REPLACEMENT
AT THE
COMMUNITY CENTER

JANUARY 2016



Prepared By:

Wright-Pierce
99 Main Street
Topsham, Maine 04086

Phone: 207-725-8721

Fax: 207-729-8414

INVITATION TO BID

ROOF REPLACEMENT AT THE COMMUNITY CENTER

for

WISCASSET, MAINE

Bids for the Roof Replacement at the Community Center will be received at the Town Manager's office located at 51 Bath Road in Wiscasset, Maine until 3:00 p.m. on Tuesday, February 2, 2016. Bids will be opened at the Board of Selectman's Meeting at 6:00 p.m. on February 16, 2016.

Bids must be submitted in a sealed envelope; the outside clearly marked "Bid for the Roof Replacement at the Community Center", and shall be addressed to Marian Anderson, Town Manager.

The work involves the replacement of approximately 18,000 S.F. of the existing flat PVC roofing system including insulation, wood blocking and flashing with an EPDM roofing system and other work as indicated on the drawings and in the specifications. Work must be completed between July 5th and September 30, 2016.

Copies of the Contract Documents will be distributed by the Town of Wiscasset. Plans can be obtained by contacting Kathy Onorato at 207-882-8200 X103. To be considered a responsive Bidder, the Contractor shall have obtained at least one set of paper plans and specifications from the Town. The Bid will not be awarded to a Bidder unless a record for the request of at least one set of paper plans and specifications exists in the office of the Town.

A completed Bid Form and bid security in the amount of five percent of the Total Bid must be submitted with the Bid. The Bid Security may be either a proposal guaranty bond executed by a surety company authorized to do business in the State of Maine, or a certified check drawn upon a bank within the State of Maine. Bid Security shall be made payable to Town of Wiscasset. Bids submitted without Bid Security will not be considered. No Bid may be withdrawn for 120 days after receipt of Bids unless released by the Owner.

The successful bidder must furnish within 10 calendar days after the notice of award the required number of copies of the signed Contract, 100% Performance Bond, 100% Payment Bond and Project Schedule.

The Bidder should familiarize themselves with the work areas. A non-mandatory prebid meeting will be held at the Community Center located at 242 Gardiner Road in Wiscasset, Maine on Tuesday, February 2, 2016 at 1:30 p.m.

The Town of Wiscasset reserves the right to reject any or all Bids, to waive any technical or legal deficiencies and to accept any bid that it may deem to be in the best interest of the Town.

BID FORM

PROJECT IDENTIFICATION: Roof Replacement at the Community Center
Wiscasset, Maine

THIS BID IS SUBMITTED TO: Town of Wiscasset
51 Bath Road
Wiscasset, ME 04578

The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with Owner in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the other terms and conditions in the Contract Documents.

In submitting this Bid, BIDDER represents that:

- (a) BIDDER has examined copies of all the Bidding Documents and the following Addenda (receipt of all which is hereby acknowledged):

Date	Number
_____	_____
_____	_____
_____	_____

- (b) Bidder acknowledges that his Bid will be rejected unless the Issuing Office has a record that the Bidder has requested and received at least one set of paper Bidding Documents from the Town.
- (c) Bidder acknowledges that the contract documents can only be changed by a written addenda issue by the Town.
- (d) This Bid will remain subject to acceptance for 120 days after the day of Bid opening.

Bidder understands that the Owner reserves the right to reject any or all bids.

Bidder understands that, if the contract is to be awarded, it will be awarded to the lowest responsive, responsible bidder whose evaluation by Owner indicates to Owner that the award will be in the best interests of the Project.

Bidder shall provide 3 project references and 1 financial reference with their bid. The references shall include the type of project, project value, contact name, title and number. The financial reference shall be a supplier or financial institution.

Bidder will complete the Work described in the Contract Documents for the following price(s):

BID SCHEDULE

Item No.	Quantity	Brief Description of Item in Words	Total Amount In Figures
1	Lump Sum	BASE BID All work as described in the documents for replacing the Lower Roof from column line 5 to column line 10 and the roof south of column line 10. TOTAL BASE BID: _____ (words)	\$ _____ \$ _____
2	Lump Sum	BID ALTERNATE A All work as described in the documents for replacing the Upper Roof and remaining roof areas as indicated in the documents. TOTAL BID ALTERNATE A _____ (words)	\$ _____ \$ _____
	3		100 LF
TOTAL BID:		Total of Items 1 (Base Bid) and 2 (Bid Alternate A) above.	
		_____	(\$ _____)
		_____	(use figures)
		_____	(use words)

- The following documents are attached to and made a condition of this Bid:
- (a) The Bid Form in its entirety
 - (b) Required Bid Security
 - (c) References

RESPECTFULLY SUBMITTED on _____, 2015

If Bidder is

An Individual

By _____
(Individual's Name)

doing business as _____

Business address: _____

Phone No.: _____

A Partnership

By _____
(Firm Name)

_____ (General Partner)

Business address: _____

Phone No.: _____

A Corporation

By _____
(Corporation Name)

_____ (State of Incorporation)

By _____
(Name of Person Authorized to Sign)

By _____
(Title)

(Corporate Seal)

Attest _____
(Secretary)

Business address: _____

Phone No.: _____

END OF SECTION

CONTRACT

ROOF REPLACEMENT at the WISCASSET COMMUNITY CENTER

THIS AGREEMENT, made this ____ day of _____, 2016, by and between Town of Wiscasset, hereinafter referred to as the OWNER, and _____, hereinafter referred to as the CONTRACTOR:

WITNESSETH:

That for and in consideration of the mutual covenants and promises between the parties hereto, it is hereby agreed that:

1. The Contractor shall furnish all of the materials and supplies, equipment, and labor and other services necessary in conformance with these contract documents for the construction and completion of the project, described in general as follows:

The work involves the replacement the existing flat PVC roofing system including insulation, wood blocking and flashing with an EPDM roofing system and other work as indicated on the drawings and in the specifications at the Wiscasset Community Center.

2. **COMPLETION OF WORK.** The Contractor shall commence and complete the work between July 5th – September 30, 2016. Work on site will be conducted between Monday through Saturday of each week. A Construction schedule shall be submitted to the Town for review and approval. The construction schedule shall detail any periods where interior areas of the building will be closed to use by the Owner.
3. **CONTRACT SUM.** The Owner shall pay the Contractor for the performance of said work, as noted in the Bid Form.
4. **Construction Contract Documents include:**
 - a) Invitation to Bid
 - b) Bid Proposal
 - c) Contract
 - d) Specification Section 00610 – Performance Bond
 - e) Specification Section 00620 – Payment Bond
 - f) Specification Section 01340 - Submittals
 - g) Specification Section 06100 – Rough Carpentry
 - h) Specification Section 07220 – Roof and Deck Insulation

- i) Specification Section 07531 – Single Ply Roofing
- j) Specification Section 07620 – Sheet Metal Flashing and Trim
- k) Drawing A-1 Roof Plan
- l) Drawing A-2 Details

5. The Owner will pay the Contractor as follows:

A maximum of 3 progress payment requests will be allowed by the Owner. The Payment request shall cover all work completed at the time of the request including materials installed. The Owner will pay the Contractor within twenty (30) days after receiving a payment request that is acceptable to both the Owner and the Contractor.

The Owner will withhold 10% of each payment request as retainage until the work is complete. When the Work has been 50 percent completed as determined by OWNER, and if the character and progress of the Work have been satisfactory to OWNER, the Owner at their discretion may determine that as long as the character and progress of the Work remain satisfactory to them, there will be no retainage on account of Work subsequently completed. In which case the remaining progress payments will be in an amount equal to 100 percent of the Work completed to date less the aggregate of payments previously made; and the retainage previously withheld.

The Owner may request that the Contractor shall furnish, prior to final payment, evidence that all claims for labor, materials, and any other outstanding indebtedness in connection with this Contract have been paid in full. No retainage will be held specifically for the 2 year warrantee period, which begins at the granting of substantial completion by Owner to the Contractor.

6. The Contractor shall supervise, inspect and direct the work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the work in accordance with the Contract Documents. The Contractor shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. The Contractor shall be responsible to see that the completed work complies accurately with the Contract Documents.

7. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work and for meeting Federal (OSHA) and State safety requirements. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

All persons on the work site or who may be affected by the work; all the work and materials and equipment to be incorporated therein, whether in storage on or off the site; and other property at the site or adjacent thereto.

The Contractor shall comply with all applicable Laws and Regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection.

8. In the event the Owner is dissatisfied with the progress or competency in the performance of the work in accordance with the schedule for completion of the various aspects of construction, the Owner shall specify in detail the cause of dissatisfaction. Should the Contractor fail or refuse to remedy the matters complained of within two days after the written notice is received by the Contractor, the Owner shall have the right to take control of the work and either make good the deficiencies of the Contractor itself or direct the activities of the Contractor in doing so, employing such additional help as the Owner deems advisable. In such event, the Owner shall be entitled to deduct from payment or collect from the Contractor any expenses in completing the work.
9. The Contractor guarantees all material and equipment furnished and all work performed for a period of 2 years from the date of substantial completion of the contract. The Contractor guarantees that the project is free from defects due to faulty materials or workmanship and the Contractor shall make the necessary corrections to correct these defects. Substantial Completion shall be the date the Owner accepts the work.
10. The Contractor agrees to pay all claims for labor, materials, services and supplies, and agrees to allow no such changes to be fixed on the property of the Owner.
11. The Contractor agrees to comply with all laws, rules and regulations that apply to the work.
12. The actual performance of the work and supervision shall be performed by the Contractor, but the Owner and their representatives shall have access to the premises for the purpose of observing or inspecting the work performed by the Contractor.
13. It is fully understood and agreed that none of the requirements of this contract shall be considered as waived unless changes are made in writing and then only by the persons executing this contract.
14. The Contractor agrees not to sublet or assign any portion of this work without the written consent of the Owner.
15. The Contractor shall have full responsibility under this Contract for any subcontracts which the Contractor may let.
16. The Contractor shall indemnify and save harmless the Owner and the Owner's agents and employees, and the Engineer from and against all losses and all claims,

demands, payments, suits, actions, recoveries, and judgments of every nature, and description brought or recovered against them including attorney's fees, by reasons of any act or omission of the said Contractor, its agents, or employees, in the execution of the work or in guarding the same. Nothing herein shall, nor is intended to, waive any defense, immunity or limitation of liability which may be available to the Town or their respective officers, agents and employees, under the Maine Tort Claims Act or any other privileges and/or immunities provided by law.

17. Upon completion or termination of the work, the Contractor shall remove from the vicinity of the work all equipment, temporary structures, waste materials and rubbish resulting from its daily operations, leaving the premises in a neat and presentable condition. In the event of failure to do so, the same may be done by the Owner at the expense of the Contractor.
18. Except as otherwise provided by this Agreement, Contractor and its subcontractors and consultants shall obtain and maintain, throughout the term of this Agreement, at no expense to TOWN, the following insurance coverage:
 - a. General and professional liability insurance in the amount of not less than Four Hundred Thousand Dollars (\$400,000) or such other amount as is established by the Maine Tort Claims Act (14 M.R.S.A. §8101 et seq.) as amended from time to time, combined single limit, to protect Contractor, any subcontractor performing Services under this Agreement, and TOWN from claims and damages that may arise from operations under this Agreement, whether such operations be by Contractor, or by any subcontractor or anyone directly or indirectly employed by Contractor.
 - b. Automobile Liability Insurance in the amount of not less than Four Hundred Thousand Dollars (\$400,000) or such other amount as is established by the Maine Tort Claims Act (14 M.R.S.A. §8101 et seq.) as amended from time to time, combined single limit, to protect Contractor, any subcontractor performing work covered by this Agreement, and TOWN from claims and damages that may arise from operations under this Agreement, whether such operations be by Contractor, or by anyone or any subcontractor directly or indirectly employed by Contractor.
 - c. Workers' Compensation Insurance in amounts required by Maine law and Employer's Liability Insurance, as necessary, as required by Maine law. In case any class of employees engaged in hazardous work under this Agreement is not protected under the Workers' Compensation Act, Contractor shall, at its own expense, provide for the protection of its employees not otherwise protected.
 - d. All such insurance policies shall name TOWN as an additional insured, except that for purposes of workers' compensation and professional liability

insurance, Contractor and its subcontractors instead may provide a written waiver of subrogation rights against TOWN. Contractor, prior to commencement of services under this Agreement, and any of its subcontractors, prior to commencement of services under any subcontract, shall deliver to TOWN certificates satisfactory to TOWN evidencing such insurance coverage.

19. The Contractor shall submit a minimum of three copies of shops drawings for each product or material for the Owner to review. All deviations from the specification shall be listed with an explanation justifying each deviation.
20. This contract shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.
21. Owner will be responsible for obtaining local building permits and for any fees required for the permit.
22. Owner shall be responsible for all inspections by local authorities if required.
23. Contractor shall coordinate his work with the work being done by others at the site. The Contractor shall coordinate with the Owner, scheduling work that impacts the use of or access to any portion of the building at least 5 days prior to doing the work.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Contract in duplicate, on the date first above written.

CONTRACTOR:

OWNER:

By: _____

By: _____

Type Name: _____

Type Name: _____

Title: _____

Title: _____

(Seal)

(Seal)

END OF SECTION

SECTION 00610
PERFORMANCE BOND

CONTRACTOR (name and address):

SURETY (name and address of principal place of business):

OWNER (name and address):

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description (name and location):

BOND

Bond Number:

Date (not earlier than the Effective Date of the Agreement of the Construction Contract):

Amount:

Modifications to this Bond Form: None See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal (seal)

Surety's Name and Corporate Seal (seal)

By: _____
Signature

By: _____
Signature (attach power of attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

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

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

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

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

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

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

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

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

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

the Contract Price incurred by the Owner as a result of the Contractor Default; or

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

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

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

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

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

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

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

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

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

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years

after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

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

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

14. Definitions

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

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

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

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

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

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

16. Modifications to this Bond are as follows:

PAYMENT BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):*

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: None See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

(seal)

Contractor's Name and Corporate Seal

(seal)

Surety's Name and Corporate Seal

By: _____

Signature

By: _____

Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____

Signature

Attest: _____

Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
 - 5.1 Claimants who do not have a direct contract with the Contractor,
 - 5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2 Pay or arrange for payment of any undisputed amounts.
 - 7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of

one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. Definitions

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

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

16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also

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

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

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

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

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

18. Modifications to this Bond are as follows:

SECTION 01340SUBMITTALSPART 1 - GENERAL1.1 DESCRIPTION

A. Work Included:

1. Submit to the Engineer, Shop Drawings, Manufacturers' Certificates, Project Data, and Samples required by the Specification Sections.

1.2 SHOP DRAWINGS

- A. Shop Drawings are required for each and every element of the work. Each shop drawing shall be assigned a number consisting of the Specification Section number followed by a dash and then a sequential number beginning with 01 (e.g., 16000-01) for purposes of easy identification. Resubmittals shall include an alphabetic suffix after the corresponding sequential number (e.g., 16000-01A).
- B. Shop Drawings are generally defined as all fabrication, diagrams, brochures, schedules, bills of material, manufacturers data, and other data prepared by the Contractor, his subcontractors, suppliers, or manufacturers which illustrate the manufacturer, fabrication, construction, and installation of the work, or a portion thereof.
- C. The Contractor shall submit to the Engineer 3 of hardcopies of Shop Drawings and approved data, and one electronic Portable Document Format (PDF) transmitted using e-mail, File Transfer Protocol (FTP), or approved submittal sharing software. The Engineer shall return one hardcopy and electronic PDF to the Contractor for duplication and distribution to subcontractors, suppliers and manufacturers. All shop drawing comments will be summarized on the Submittal Review Form and must be retained with each submittal hardcopy and electronic PDF.
- D. The Contractor shall provide a completed Contractor Submittal Certification Form (copy provided for Contractor's use at the end of this Specification Section) which shall be attached to every hardcopy and electronic PDF of each shop drawing. Shop Drawings shall show the principal dimensions, weight, structural and operating features, space required, clearances, type and/or brand of finish or shop coat, grease fittings, etc., depending on the subject of the drawing. When it is customary to do so, when the dimensions are of particular importance, or when so specified, the drawings shall be certified by the manufacturer or fabricator as correct for the work.
- E. Shop Drawings shall be submitted as a complete package by specification section, unless otherwise reviewed and approved by the Engineer. It is the intent that all information, materials and samples associated with each specification section be included as a single submittal for the Engineer's review. Any deviation from this requirement, such as submitting miscellaneous metals grouped by structure, shall be requested in writing with an anticipated shop drawing breakdown/schedule prior to any associated submittal.
- F. The Contractor shall be responsible for the prompt and timely submittal of all shop

and working drawings so that there shall be no delay to the work due to the absence of such drawings.

- G. No material or equipment shall be purchased or fabricated especially for the Contract until the required shop and working drawings have been submitted as hereinabove provided and reviewed for conformance to the Contract requirements. All such materials and equipment and the work involved in their installation or incorporation into the Work shall then be as shown in and represented by said drawings.
- H. Until the necessary review has been made, the Contractor shall not proceed with any portion of the work (such as the construction of foundations), the design or details of which are dependent upon the design or details of work, materials, equipment or other features for which review is required.
- I. All shop and working drawings shall be submitted to the Engineer by and/or through the Contractor, who shall be responsible for obtaining shop and working drawings from his subcontractors and returning reviewed drawings to them. Hard copies of shop drawings shall be of standardized sizes to enable the Owner to maintain a permanent record of the submissions. Approved standard sizes shall be: (a) 24 inches by 36 inches; (b) 11 inches by 17 inches, and (c) 11 inches by 8-1/2 inches. Provision shall be made in preparing the shop drawings to provide a binding margin on the left hand side of the sheet. Shop drawings submitted other than as specified herein may be returned for resubmittal without being reviewed.
- J. Only drawings which have been checked and corrected by the fabricator should be submitted to the Contractor by his subcontractors and vendors. Prior to submitting drawings to the Engineer, the Contractor shall check thoroughly all such drawings to satisfy himself that the subject matter thereof conforms to the Drawings and Specifications in all respects. All drawings which are correct shall be marked with the date, checker's name, and indication of the Contractor's approval, and then shall be submitted to the Engineer.
- K. If a shop drawing shows any deviation from the Contract requirements, the Contractor shall make specific mention of the deviations in his letter of transmittal. Shop Drawings that contain significant deviations that are not brought to the attention of the Engineer may be subject to rejection.
- L. Should the Contractor submit equipment that requires modifications to the structures, piping, electrical conduit, wires and appurtenances, layout, etc., detailed on the Drawings, he shall also submit details of the proposed modifications. If such equipment and modifications are accepted, the Contractor, at no additional cost to the Owner, shall do all work necessary to make such modifications.
- M. A maximum of two submissions of each Shop Drawing will be reviewed, checked, and commented upon without charge to the Contractor. Any additional submissions which are ordered by the Engineer to fulfill the stipulations of the Drawings and Specifications, and which are required by virtue of the Contractor's neglect or failure to comply with the requirements of the Drawings and Specifications, or to make those modifications and/or corrections ordered by the Engineer in the review of the first two submissions of each Shop Drawing, will be reviewed and checked as deemed necessary by the Engineer, and the cost of such review and checking, as determined by the Owner, and based upon Engineer's documentation of time and

rates established for additional services in the Owner-Engineer Agreement for this Project, may be deducted from the Contractor to make all modifications and/or corrections as may be required by the Engineer in an accurate, complete, and timely fashion. Resubmittals for the sole purpose of providing written responses to review comments will not be considered a resubmittal counting towards the two submission limit.

1.3 SUBMISSION REQUIREMENTS

- A. Accompany submittals with transmittal letter, containing:
1. Date.
 2. Project title and number.
 3. Contractor's name and address.
 4. The sequential shop drawing number for each shop drawing, project data and sample submitted shall be:
 - i. Specification Section number followed by a dash and then a sequential number beginning with 01 (e.g., 16000-01).
 - ii. Under limited situations when additional different pieces of equipment are submitted under the same specification section, those submittals shall be numbered sequentially (e.g. 05500-01, 05500-02, 05500-03, etc.).
 - iii. Resubmittals shall include decimal point and an alphabetic suffix after the corresponding sequential number (e.g., 16000-01A).
 5. Notification of deviations from Contract Documents.
 6. Other pertinent data.
- B. A completed Contractor Submittal Certification Form shall be attached to each hardcopy and electronic PDF of each shop drawing and must include:
1. Project name
 2. Specification Section and sequential number with alphabet suffix for resubmittal
 3. Description
 4. Identification of deviations from Contract Documents.
 5. Contractor's stamp, initialed or signed, certifying review of the submittal, verification of field measurements and compliance with Contract Documents.
 6. Where specified or when requested by the Engineer, manufacturer's certification that equipment, accessories and shop painting meet or exceed the Specification requirements.
 7. Where specified, manufacturer's guarantee.
- C. Requirements for Electronic Submittals:
1. Each individual shop drawing shall be contained in one PDF.
 2. The first page of the PDF shall be the Contractor Submittal Certification Form as described above.
 3. Subject lines for e-mails transmitting PDF submissions and subsequent correspondence referring to specific submittals shall identify the submittal's Specification Section, sequential number, appropriate alphabet suffix for resubmittals, and a brief description (e.g. 16010-01-Electrical General).
 3. The electronic PDF shall be **exactly** as submitted in the hardcopy and shall be

transmitted using e-mail, File Transfer Protocol (FTP), or approved submittal sharing software.

4. PDF versions of 24x36 drawings shall be converted to 24 x 36 PDFs so as not to lose the clarity of the original drawing.
5. Electronic PDF submittals that are not submitted in accordance with the requirements stated above will not be reviewed by the Engineer.

1.4 RESUBMISSION REQUIREMENTS

- A. Revise initial drawings as required and resubmit as specified for initial submittal.
- B. Indicate on drawings any changes which have been made other than those required by Engineer. All renumbering of shop drawings, relabeling of individual pieces or assemblies or relocating of pieces or assemblies to other Drawings within the submittal shall be clearly brought to the attention of the Engineer.

1.5 ENGINEER'S REVIEW

- A. The review of shop and working drawings hereunder will be general only, and nothing contained in this specification shall relieve, diminish or alter in any respect the responsibilities of the Contractor under the Contract Documents and in particular, the specific responsibility of the Contractor for details of design and dimensions necessary for proper fitting and construction of the work as required by the Contract and for achieving the result and performance specified thereunder.
- B. The Engineer's review comments will be summarized on a Submittal Review Form, which includes an action code. A description of each action code is provided below.
 1. **No Exceptions Taken (Status 0 on shop drawing log).** The shop drawing complies with the Contract Document requirements. No changes or further information are required. Where appropriate, the submittal review form will be used to alert the Contractor, Owner and Field personnel of remaining items within that specification section that still needs to be submitted.
 2. **Make Corrections Indicated (Status 1 on shop drawing log).** The shop drawing complies with the Contract Document requirements except for minor changes, as indicated. Resubmittal is not required unless it is specifically called for; however, Engineer requires that all comments will be addressed by the Contractor, unless otherwise notified in writing prior to execution of the relevant work.
 3. **Conditional to Remarks (Status 2 on shop drawing log).** The shop drawing potentially complies with the Contract Document requirements, contingent upon satisfactory resolution of review comments. Remarks will explicitly list what information needs to be resubmitted. Resubmittal from the Contractor should include a cover letter or summary which indicates how each review comment has been addressed.
 4. **Revise and Resubmit (Status 3 on shop drawing log).** The shop drawing does not comply with the Contract Document requirement as submitted, but may with changes indicated and/or submission of additional information. The entire package must be resubmitted with the necessary information and a cover letter which indicates how each review comment has been addressed and where

to find the information in the resubmittal.

5. **Rejected (Status 4 on shop drawing log).** The shop drawing does not comply with the Contract Document requirements, for the reasons indicated in the remarks, and is unacceptable.
6. **In Review (Status 5 on shop drawing log).** The shop drawing is currently under review.
7. **For Information Only (Status 6 on shop drawing log).** The shop drawing review was informational only. No comments are provided.

CONTRACTOR SUBMITTAL CERTIFICATION FORM

PROJECT: _____ CONTRACTOR'S PROJ. NO: _____

CONTRACTOR: _____ ENGINEER'S PROJ. NO: _____

ENGINEER: _____

SHOP DRAWING NUMBER:	_____ SPECIFICATION SECTION OR DRAWING NO:	- _____ SEQUENTIAL NUMBER (& ALPHA SUFFIX FOR RESUBMITTAL)
----------------------------	--	--

DESCRIPTION: _____

MANUFACTURER: _____

The above referenced submittal has been reviewed by the undersigned and I/we certify that the material and/or equipment meets or exceeds the project specification requirements with

NO DEVIATIONS

or

A COMPLETE LIST OF DEVIATIONS AS FOLLOWS^a:

By: _____

Contractor^b

By: _____

Manufacturer^c

Date: _____ Date: _____

^a Any deviations not brought to the attention of the Engineer for review and concurrence shall be the responsibility of the Contractor to correct, if so directed.

^b Required on all submittals

^c When required by specifications Page ___ of ___

General Contractor's Stamp

END OF SECTION

SECTION 06100ROUGH CARPENTRYPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Temporary enclosures.
- B. All rough lumber, including wood nailers, posts, plates and blocking.
- C. Rough hardware, such as nails, bolts, screws, clips, as required to install rough carpentry work.
- D. Lumber Preservatives

1.2 RELATED SECTIONS

- A. Section 01340 - Submittals
- B. Section 07220 – Roof and Deck Insulation
- C. Section 07531 – Single Ply EPDM Roofing
- D. Section 07620 - Sheet Metal Flashing and Trim

1.3 REFERENCES

- A. Standard pressure process shall conform to Federal Specification TT-W-573.

1.4 QUALITY ASSURANCE

- A. All lumber except as otherwise specified herein shall:
 - 1. Be new, dressed 4 sides (S4S), clean, and free from warping and other defects.
 - 2. Conform to U. S. Department of Commerce Simplified Practice Recommendations R-16 for sizes and use Classifications.
 - 3. Have a moisture content not exceeding 19 percent when delivered to the project.
 - 4. National Forest Products Association - "National Design Specification for Wood Construction - 2005 including Design Values for Wood Construction".
- B. Plywood shall conform to American Plywood Association APA Grade Trademark and Product Standard PS-1.

1.5 SUBMITTALS

- A. Submit product data under provision of Section 01340.
- B. Submit lumber species and grade.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store all materials in an elevated dry location, protected by waterproof coverings. Do not store within the building until masonry, concrete, and other such wet work has been completed and allowed to dry.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Wolmanized Pressure-Treated Lumber
 - 1. Hickson Corp.
 - 2. Hoover Treated Wood Products
 - 3. Koppers

2.2 LUMBER TREATMENTS

- A. Pressure Preservative Treatments: All dimension lumber, wood blocking and nailers which will be embedded or in contact with concrete and masonry, and all nailers which will be concealed by roofing and flashing, shall be treated with ACQ (Type D). The minimum retention shall be 0.25 pounds of preservative per cubic foot of wood.
- B. Brush Preservative Treatment: Brush coat all end cuts after cutting with ACQ or equal. Apply in two heavy coats on all surfaces prior to installation of lumber.

2.3 MATERIALS

- A. Nailers, blocking, equipment bases, and all other lumber of actual 1-1/2 inches or greater thickness - Douglas fir, spruce, pine, number two (2) or better, unless indicated otherwise on the Structural Drawings.

2.4 ROUGH HARDWARE

- A. Nailers and blocking in excess of 7/8 inch thick - 3/4-inch diameter galvanized steel anchor bolts or expansion bolts, as applicable.
- B. Furring, strapping and blocking 7/8 inch thick or less attached to concrete or masonry- 5/16 inch diameter galvanized steel anchor bolts or expansion bolts.
- C. Secure other non-specified lumber with stainless steel fasteners, of a type most suitable for the application.
- D. Hardware and fasteners in contact with pressure treated lumber shall be stainless steel.

PART 3 EXECUTION

3.1 TEMPORARAY BRACING

- A. Provide and maintain, until such time as permanently built into the structure, all temporary bracing for walls, door frames, sills, and other work requiring bracing and which is not specified as being provided under other SECTIONS of the specifications.

3.2 PROTECTION

- A. Do such work as is necessary to cover and protect all finishes and other work from damage during construction.

3.3 NAILERS AND BLOCKING

- A. Fasten nailers and blocking to concrete and masonry with specified bolts, as shown on Drawings. Space bolts not over 32 inches on centers. Stagger lines of bolts on nailers wider than nominal 3-1/2 inch width. Use not less than two (2) bolts per piece of nailer length. Counterbore nailers so that nut and ends of bolts are recessed below top surface. Install wood shims behind nailers and blocking against masonry, as required, to ensure completely true surface.

END OF SECTION

SECTION 07220ROOF AND DECK INSULATIONPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Polyisocyanurate foam core insulation panels laminated to a black glass reinforced mat facer on both sides.
- B. Tapered polyisocyanurate foam core insulation panels laminated to a black glass reinforced mat facer on both sides.
- C. Crickets
- D. Roofing vapor barrier.
- E. Asphalt.
- F. Mechanical fasteners and insulation plates.
- G. Hot asphalt or insulation adhesive.

1.2 RELATED SECTION

- A. Section 01340 - Submittals
- B. Section 06100 - Rough Carpentry
- C. Section 07531 - Single-ply EPDM Roof
- D. Section 07620 - Sheet Metal Flashing and Trim

1.3 REFERENCES

- A. ASTM D1621 - Test Method for Compressive Properties of Rigid Cellular Plastics
- B. ASTM D1622 - Test Method for Apparent Density of Rigid Cellular Plastics
- C. ASTM E84 - Test Method for Surface Burning Characteristics of Building Materials
- D. ASTM E96 - Test Methods for Water Vapor Transmission of Materials
- E. ASTM D36 - Test Method for Softening Point of Bitumen (Ring and Ball Apparatus)
- F. ASTM D92 - Test Method for Flash and Fire Points by Cleveland Open Cup
- G. ASTM D113 - Test Method for Ductility of Bituminous Materials.
- H. ASTM D226 - Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
- I. ASTM D312 - Specification for Asphalt Used in Roofing
- J. ASTM D2042 - Test Method for Solubility of Asphalt Materials in Trichloroethylene
- K. CAN/ULS-5770 - Long Term Thermal Resistance (LTTR) of Closed-Cell Thermal Insulation Foams.

1.4 SUBMITTALS

- A. Submit product data under provisions of Section 01340.
- B. Shop Drawing showing roof configuration and insulation layout.
- C. Manufacturer's Literature: Manufacturer's recommended installation instructions.

- D. Submit the Manufacturer's project specific fastening requirement to meet ASCE-7 and the uplift loading criteria as indicated on the structural drawings.
- E. Certificates: Manufacturer's certification that materials meet specification requirements.
- F. Submit proof that all concrete decks have been tested for moisture prior to installation of the vapor barrier.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to project site in manufacturer's original unopened packaging.
- B. Identify contents, manufacture, brand name, thermal values, and applicable standards.
- C. Store materials in area protected from weather, moisture, and open flame or sparks.
- D. Remove damaged materials from site.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Do not install materials when temperature is 40 Degrees F or below, during rain or wet weather, or when surfaces are wet.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Material shall be compatible with the roofing system specified and shall be as required by the roofing system manufacturer to achieve the warranties specified.
 - 1. Firestone
 - 2. NRG Barriers
 - 3. Celotex Corp.

2.2 RIGID INSULATION

- A. Rigid insulation - Rigid polyisocyanurate foam insulation laminated to a black glass reinforced mat facer.
- B. Tapered Insulation - Rigid polyisocyanurate foam insulation laminated to a black glass reinforced mat facer, tapered as shown on the drawings.
- C. Compressive Strength - 25 psi ASTM D1621.
- D. Foam Core Density - Nominal two pounds per cubic foot.
- E. Flame Spread - 25, ASTM E84.
- F. Moisture Vapor Transmission - 1.0 per inch, ASTM E96.
- G. Long Term Thermal Resistance (LTTR) Value as specified.
- H. Insulation shall be 4-foot by 4-foot sheet where hot asphalt or adhesive is used.

2.3 VAPOR BARRIER

- A. Vapor Barrier shall be one of the following:
 - 1. Glass-Ply Type IV asphalt saturated roofing felt.

2. Heavy 75-pound base sheet that will prevent bleed through on asphalt where the insulation is to be adhered.
3. The roofing membrane manufacturer's standard shelf adhering vapor barrier system.

2.4 ASPHALT

- A. Asphalts shall be homogenous ASTM D-312 Type III or Type IV and free of water and conform to the minimum as follows:
 1. Softening Point (Degrees F) 185 ASTM D36
 2. Flash Point (Degrees F) 475 ASTM D92
 3. Penetration, Units:

at 32 Degrees F	6
at 77 Degrees F	15
at 115 Degrees F	-
 4. Ductility at 77 Degrees F, CM 2.5ASTM D113
 5. Solubility in Trichloroethylene, 99 Percent ASTM D2042

2.5 MECHANICAL FASTENERS

- A. Mechanical fasteners shall be non-corrosive coated screws with a minimum .200 inch diameter shank and .250 inch diameter thread by required length or as required by manufacturer.
- B. Washer plates shall be 3 inch round or square, as required by the roofing manufacturer.

2.6 CRICKET SYSTEM

- A. Standard tapered rigid insulation blocks with a 1/2 inch per foot taper.
- B. Standard tapered wood fiber board edge strip, tapered to zero.

2.7 INSULATION ADHESIVE (optional)

- A. A single component, low rise, elastomeric, urethane foam adhesive.
- B. Product shall be Weather-Tite Pourable Foam Insulation Adhesive as manufactured by Millennium Adhesive Products, Inc., or equal.
- C. Warrantee on the insulation adhesive shall be the same length as the specified roofing system warranty.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine areas to receive vapor retarder and insulation to insure work of preceding trades is completed.
- B. Proceed with application of vapor retarder and insulation only when conditions are satisfactory.

3.2 INSTALLATION

- A. Apply vapor retarder on all decks.
- B. Asphalt vapor barrier shall be installed in a two-ply construction and a 19 inch overlap in hot asphalt insuring that in no place felt touches felt-solid mop the entire surface of felts and while hot, install first layer of insulation.
- C. Install self-adhered vapor barriers as recommended by the manufacturer.
- D. Insulation shall be installed in multiple layers. All joints shall be staggered from the layer below by a minimum of 6".
- E. Insulation shall be neatly fitted to all penetrations, projections, and nailers with no joints more than 1/8" in width. All gaps greater than 1/4 inch wide shall be filled with acceptable insulation material.
- F. No more insulation shall be installed than can be covered with roofing membrane before the end of the day's work or before the onset of inclement weather.
- G. Mechanical fasteners shall penetrate the deck substrate as required by the roofing manufacturer.
- H. Insulation boards shall be mechanically fastened as required to meet the wind uplift criteria for the project and the specific written recommendations of the roofing manufacturer, but at a minimum shall be 1 fastener per every 2 square feet
- I. Install crickets as shown on Drawings.
- J. Adhered Insulation Installation (optional)
 - 1. Apply 75-pound base sheet vapor barrier.
 - 2. Install insulation in 4-foot by 4-foot sheets using hot asphalt or adhesive in accordance with the manufacturer's recommendations.

3.3 CLEAN-UP

- A. Remove adhesive and asphalt spatters and smears.
- B. Remove debris from project site.
- C. Leave work areas in clean condition.

END OF SECTION

SECTION 07531SINGLE-PLY EPDM ROOFINGPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Single-ply EPDM fully adhered roofing system.
- B. Rubber Walkway Pads.
- C. New Work on Existing Roofs.
- D. Roof Drains
- E. Roof Top Mounted Guard Rails.

1.2 RELATED SECTIONS

- A. Section 01340 - Submittals
- B. Section 06100 - Rough Carpentry
- C. Section 07220 - Roof and Deck Insulation
- D. Section 07620 - Sheet Metal Flashing and Trim

1.3 REFERENCES

- A. Underwriter's Laboratory (UL)
- B. ASTM D297 - Test Method for Rubber Products.
- C. ASTM D412 - Test Methods for Rubber Properties in Tension.
- D. ASTM D471 - Test Method for Rubber Property - Effect of Liquids.
- E. ASTM D573 - Test Method for Rubber - Deterioration in an Air Oven.
- F. ASTM D624 - Test Method for Rubber Property - Tear Resistance.
- G. ASTM D746 - Test Method for Brittleness Temperature of Plastics and Elastomers by Impact.
- H. ASTM D1149 - Test Method for Rubber Deterioration - Surface Ozone Cracking in a Chamber.
- I. ASTM D2240 - Test Method for Rubber Property - Durometer Hardness.
- J. ASTM E96 - Test Method for Water Vapor Transmission of Materials.
- K. ASTM D4637 - Standard Specifications for EPDM sheet used in single ply roof membrane.

1.4 PERFORMANCE REQUIREMENTS

- A. Provide labeled materials which have been tested and listed by UL for application indicated, with the following rating for roof slopes shown, "Class A" rated materials.
- B. Certified Test Results: Test reports from an independent testing laboratory, attesting that products meet the specified test requirements.
- C. The completed installation shall be inspected and approved by a representative from the roofing manufacturer. All deficiencies noted in this inspection shall be corrected at no additional cost to the Owner.

1.5 SUBMITTALS

- A. Submit product data under provisions of Section 01340.
- B. Submit specifications, installation instructions, and general recommendations for roofing system provided.
- C. Submit copies of pre-roofing conference.
- D. Submit Shop Drawings of anchorage, penetrations and large scale details.
- E. Submit manufacturer's certification that the roofing system and installation complies with ASCE-7 and the uplift loading criteria as indicated on the structural drawing.
- F. Submit a letter from the manufacturer verifying that they have reviewed the project and indicating that the completed installation will qualify for the warranties specified.
- G. Submit a copy of the Roof Inspection Report(s).

1.6 QUALIFICATIONS

- A. Manufacturers: Obtain primary flexible sheet roofing from a single manufacturer. Provide secondary materials as recommended by manufacturer of primary materials.
- B. Installer: Installer shall be certified in writing by the manufacturers as a licensed or approved installer of the system specified.

1.7 PRE-INSTALLATION CONFERENCE

- A. Prior to the installation of roofing and associated work, a meeting shall be held at project site with installers, manufacturers, installers of related work, the General Contractor and Owner's representative. General Contractor shall record discussions and agreements and furnish copy to each participant. Provide at least 72 hours advance notice to participants prior to convening pre-roofing conference.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Manufactured roofing materials shall be delivered in manufacturer's original unopened containers or wrapping with labels intact and legible.
- B. Store and protect materials from damage and weather in accordance with the manufacturer's instructions. Keep materials clean and dry. Store material on raised platforms and cover top, sides and bottom
- C. Adhere to the special precautions of the manufacturer or as required by the general conditions, whichever is most stringent.

1.9 ENVIRONMENTAL REQUIREMENTS

- A. Proceed with roofing work when existing and forecasted weather conditions permit work to be performed in accordance with manufacturer's recommendations and warranty requirements.

1.10 WARRANTY

- A. Membrane Manufacturers Total System warranty period shall be for 15 years after date of acceptance for materials and workmanship.
- B. Installers guarantee period shall be for two (2) years after date of acceptance.

PART 2 - PRODUCTS

2.1 MEMBRANE MANUFACTURERS

- A. Firestone Building Products Co.
- B. Carlisle Syntec Systems
- C. Versico
- D. Or Equal

2.2 MATERIALS

- A. Single-ply membrane shall be ultraviolet and ozone resistant and meet the minimum requirements set forth by ASTM D4637 for type 1 non-reinforced EPDM single-ply roofing membranes and shall have the following properties:

Property	Test Method	Specifications
Specific Gravity	ASTM-D-297	1.15 ± .05
Tensile Strength	ASTM-D-412	1400 psi minimum
Elongation	ASTM-D-412	300 Percent minimum
Tear Resistance	ASTM-D-624	125 lbs/in. minimum
Shore A Durometer	ASTM-D-2240	60 ± 10
Ozone Resistance 7 days/100 pphm @ 100 Degrees F with 50 Percent extension	ASTM-D-1149	No Cracks
Heat Aging 28 days @ 240 Degrees F	ASTM-D-573	Tensile min. 1200 psi
Brittleness Temp.	ASTM-D-746	Elongation min. 210 Percent -40 Degrees F
Resistance to Water Change in weight after immersion 7 days @ 150 Degrees F	ASTM-D-471	+8 Percent maximum
Water vapor permeability max, perm mils	ASTM-E-96	2.0
Density: 60 mils Tolerance on nominal thickness, Percent	ASTM-D-412	+/-10

- B. Flashing: EPDM flashing as by the membrane manufacturer.
- C. Prefabricated roof flashing as detailed on the Drawings.
- D. Membrane Bonding Adhesive: Adhesive as recommended by the membrane manufacturer.

- E. Miscellaneous Materials for Single-Ply Membrane: Provide manufacturers standard materials to ensure a complete installation and warranty.
- F. Separator Mat: As recommended by roofing manufacturer.
- G. Rubber Walkway Pads 30 inches square.
- H. Termination Bars - Rigid Aluminum Stock with Stainless Steel Fasteners.
- I. Splice Tape - For use in lap splicer 6-inches wide.
- J. Russ Strip - Reinforce Universal Securement strip as recommended by the manufacture.

2.3 ROOF DRAINS

- A. Roof drains shall be retrofit type as manufactured by RAC (Roof Accessories Company) Zurn, or equal.

2.4 ROOF TOP MOUNTED GUARD RAILS

- A. Guard rail system shall be Railguard 200 as manufactured by Garlock Equipment Company, Bluewater manufacturing, or equal.
- B. Guard rails shall meet all OSHA regulations 29CFR1910.23 for permanent guardrails.
- C. System shall not penetrate the roofing membrane.
- D. Railings shall be 42" high with an intermediate rail.
- E. Bases shall be weighted to provide stability to the system.
- F. Provide pins for securing railings to the bases.
- G. All materials shall have a powder coated finish; color as selected by the Engineer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Comply with manufacturers' instructions for preparation of substrate. Clean substrate of dust, debris and other substances detrimental to roofing work.
- B. Wood blocking at perimeter shall be installed prior to the start of roofing work. No voids greater than ¼ inch is permitted.
- C. There shall be no voids between adjacent boards of insulation in excess of 1/4 inch.
- D. Report unsatisfactory conditions to the contractor in writing. Beginning work is presumed as acceptance of all conditions as satisfactory.

3.2 FULLY ADHERED SINGLE-PLY MEMBRANE INSTALLATION

- A. Install membrane by unrolling over prepared substrate and allow to relax a minimum of 30 minutes before applying bonding adhesive.
- B. Apply bonding adhesive to the two surfaces and allowed to dry (tacky). Roll membrane into the coated substrate with no wrinkles.
- C. Lap adjoining sheets as recommended by membrane manufacturer. Install 6-inch splice tape for all field and flashing seams.
- D. Install membrane and prefabricated flashing at fascia and all roof penetrations as recommended by the roofing manufacturer.

- E. Install Russ strip or other securement as recommended by the Manufacturer at all roof perimeters, expansion joints, skylights, roof curbs and any angle change which exceeds 1-inches in one horizontal foot.
- F. No seams will be allowed at low points.
- G. Install roof drains as per manufacturer's instructions.

3.3 ROOF WALKWAYS

- A. Walkway Pads:
 - 1. Install pads in locations shown on Drawings. Space pads 3-inches apart to provide drainage.
 - 2. Install pads in accordance with Roofing Manufacturer's Recommendations and attach to membrane using seam flashing.

3.4 WORK ON THE EXISTING ROOF

- A. Remove existing roofing, flashing, blocking and nailers where indicated on the drawings.
- B. All work on the existing roof shall be as detailed and in accordance with the roofing manufacturers printed standards.
- C. All work shall be made watertight at the end of each workday.
- D. Protect the existing roof from damage and maintain the water-tightness of the building.

3.5 ROOF TOP GUARD RAILS

- A. Install roof top guard rail system where indicated on the Drawings.
- B. Provide a separator sheet or additional membrane at each base.

3.6 MANUFACTURER'S FIELD SERVICES

- A. A manufacturer's technical representative shall be present at the start of the roofing installation.
- B. Upon completion of the EPDM system, a manufacturer's representative will make a thorough inspection of the installation to determine that the roof system has been applied according to specifications and manufacturers standards.
- C. Upon completion of work on the existing roof, a manufacturer's representative will make a thorough inspection of the work to determine that it complies with the manufacturer's standards and specifications.

3.7 CLEANING

- A. Remove debris, scraps, containers, rubbish and other trash resulting from installation of the roofing system from job site each day.

END OF SECTION

SECTION 07620SHEET METAL FLASHING AND TRIMPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Sheet Metal Flashing and Trim
 - 1. Aluminum Fascia
 - 2. Aluminum Fascia Sump and Scuppers

1.2 RELATED SECTIONS

- A. Section 01340 - Submittals
- B. Section 06100 - Rough Carpentry
- C. Section 07531 - Single-Ply EPDM Roofing
- D. Section 07900 - Joint Sealers

1.3 REFERENCES

- A. SMACNA - Architectural Sheet Metal Manual
- B. ASTM B209 - Specification for Aluminum and Aluminum-Alloy Sheet and Plate

1.4 SUBMITTALS

- A. Submit product data under provision of Section 01340.
- B. Submit large scale shop drawings detailing: Roofing, eave and rake trim.
- C. Submit color chips for color selection by Engineer.
- D. Submit manufacturers catalog cuts, spec data sheets, and installation instructions.
- E. Submit installer's qualifications for review by Engineer.

1.5 QUALITY ASSURANCE

- A. Field measurements shall be taken prior to fabrication to assure symmetry and verify as built conditions.
- B. All sheet metal flashing and trim shall be fabricated and installed in accordance with the recommendations in the SMACNA - Architectural Sheet Metal Manual.
- C. All materials shall be installed with concealed starter cleats and splice plates to accommodate thermal movement. Exposed through nailing or face nailing is not allowed.
- D. Hem all exposed edges.
- E. The Contractor shall obtain the services of an installer with a minimum of 10 years of experience of working with the materials specified.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials with a protective vinyl masking.

- B. Store all materials in properly protected and dry storage facilities until ready for use. Do not use materials which have been damaged in any manner.
- C. Protect work from damage during construction period so that it will be without any indication of abuse or damage at time of acceptance.

1.7 WARRANTY

- A. Metal Roofing Contractor shall guarantee installation for a period of two years for weather tightness from date of acceptance.
- B. Warranty material to be free of defects in material and workmanship for a period of five years.
- C. Warranty finish against color fade, chalking and film integrity for a period of 20 years.

PART 2 - PRODUCTS

2.1 MANUFACTURER'S

- A. Sheet Metal Flashing and Trim
 - 1. Aluminum Fascia
 - a. Firestone Metal products
 - b. Metal Era
 - c. W.P. Hickman Co.
 - d. Petersen Aluminum Corporation
 - e. Or equal
 - 2. Aluminum Fascia Sump and Scuppers
 - a. Metal Era
 - b. W.P. Hickman Co.
 - c. Peterson Aluminum Corporation
 - d. Or equal

2.2 FINISH

- A. Unless indicated otherwise, finish on all materials shall be Kynar 500, Hylar 5000, or equal, Fluoropon resin finish, color selected by Engineer. Texture shall be smooth.

2.3 SHEET METAL FLASHING AND TRIM

- A. Aluminum Fascia - 0.050 inch aluminum formed as detailed on Drawings. Provide concealed splice plates to accommodate thermal movement and a continuous keeper to hold the item in place.
- B. Aluminum Fascia Scuppers - Formed aluminum fascia with welded aluminum core.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Inspect all surfaces and notify general contractor of any defects or other characteristics which may be detrimental to the installation and performance of the materials to be installed.
- B. Commencement of work shall constitute acceptance of surface conditions.
- C. Field verify all dimensions of the prefabricated items prior to fabrication to ensure ease of installation with a proper and tight fit.

3.2 INSTALLATION OF SHEET METAL FLASHING AND TRIM

- A. Installation of all materials in this Section shall be in strict accordance with the manufacturer's printed instructions.
- B. Ensure a watertight installation at all points where prefabricated items meet the roofing.
- C. Install cleats, formed fascia and continuous closure as shown on the Drawings. Anchor as recommended by Manufacturer.
- D. Set fascia flange in sealant as recommended by the roofing materials manufacturer.

3.3 CLEANING

- A. At the completion of the work, clean, and remove from site, all rubbish and accumulated materials and leave the work in a satisfactory condition.

END OF SECTION

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