



**INVITATION TO BID**  
**Leon County School Board**  
**Purchasing Department**

**Release Date:** February 15, 2023

**ITB No.:** 5733-2023

**ITB Title:** Sabal Palm Elementary School, Building 1 Roof Restoration and Buildings 2, 3, 4, 7 and 8 Roof Replacements

**Procurement** Shelly W. Kelley

**Officer:** kelleys2@leonschools.net

**Phone:** 850-717-2283

The Leon County School Board ("School Board") solicits your company to submit a bid on the above referenced goods or services. All terms, specifications and conditions set forth in this request are incorporated by this reference into your response. This sealed bid must be submitted to The Leon County School Board, Purchasing Department, 3397 W. Tharpe St, Tallahassee, Florida 32303, no later than **2:00 P.M.** local time on **March 17, 2023**, and plainly marked ITB No. **5733-2023**. Bids are due and will be opened at this time.

**REQUIRED SUBMITTAL CHECKLIST** - For each item below, insert Bidder Authorized Agent initials verifying that forms are accurately completed, signed by an officer of the business and returned with the bid. **Failure to provide all requested documents may result in your proposal being declared non-responsive.**

***Bidder should submit one (1) original, two (2) copies***

- |                                                                             |                                                                           |
|-----------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <input type="checkbox"/> ITB – Bidder Acknowledgement Form                  | <input type="checkbox"/> Drug-Free Workplace (Attachment C)               |
| <input type="checkbox"/> Dispute Contact – pg. 5, item 19                   | <input type="checkbox"/> Certification Regarding Debarment (Attachment D) |
| <input type="checkbox"/> Bid Proposal Form – pg. 13                         | <input type="checkbox"/> Local Preference Affidavit (Attachment E)        |
| <input type="checkbox"/> Conflict of Interest Certificate (Attachment A)    | <input type="checkbox"/> Mandatory Responsive Checklist (Exhibit 1)       |
| <input type="checkbox"/> Application for Vendor Status Forms (Attachment B) |                                                                           |

**THE FOLLOWING MUST BE COMPLETED, SIGNED AND RETURNED AS PART OF YOUR BID. BIDS WILL NOT BE ACCEPTED WITHOUT THIS FORM, SIGNED BY AN AUTHORIZED AGENT OF THE BIDDER.**

Authorized Representative's Name/Title		Authorized Representative's Signature		Date
Company's Name		Telephone Number		FAX Number
Address		City	State	Zip Code
Area Representative		Telephone Number		FAX Number
Federal Employer's Identification Number (FEIN)		Email		

I certify that I have not divulged, discussed, or compared this proposal with any other Proposers and have not colluded with any other proposer in the preparation of this proposal in order to gain an unfair advantage in the award of this contract. I acknowledge that all information contained herein is part of the public domain as defined in the Public Records Act, Chapter 119, FS.

By signing and submitting this proposal, I certify that I am authorized to sign this bid for this vendor and further certify unconditional acceptance of the contents of this ITB, all Attachments, Worksheets, Appendices, Supplemental Materials, and the contents of any Addendum released hereto.

Signature of Authorized Officer/Agent:

Typed or Printed Name

*(Bid must be signed by an officer or employee having authority to legally bind the Bidder)*

**NO RESPONSE – I HEREBY SUBMIT THIS AS A "NO RESPONSE" FOR THE REASON(S) CHECKED BELOW**

- |                                                                           |                                                                  |                                                                          |
|---------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------------------|
| <input type="checkbox"/> Remove our name from this bid list only          | <input type="checkbox"/> Insufficient time to respond to the ITB | <input type="checkbox"/> Could not meet insurance requirements           |
| <input type="checkbox"/> Keep our company on bid list for future bids     | <input type="checkbox"/> Could not meet specifications           | <input type="checkbox"/> Product schedule would not permit us to perform |
| <input type="checkbox"/> We do not offer the product or service requested | <input type="checkbox"/> Other _____                             |                                                                          |

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## BID IDENTIFICATION LABEL

**NOTICE TO ALL BIDDERS:** A label has been provided to properly identify your bid. Place the bid in a sealed envelope, type the name and address of the Bidder on the label and affix the label to the front of the envelope.

The hours for the School Board Purchasing office are from 8:00 a.m. - 5:00 p.m. Monday through Friday. If you are hand delivering a proposal, a Purchasing representative will be available to time/date stamp your submittal during these hours.

**Cut out the label below and attach it to your envelope.**

<b>Sealed Bid – DO NOT OPEN</b>		<b>Sealed Bid – DO NOT OPEN</b>	
<b>Bid Title:</b>	Sabal Palm Elementary School, Building 1 Roof Restoration and Buildings 2, 3, 4, 7 and 8 Roof Replacements		
<b>Bid No.:</b>	5733-2023		
<b>Bids Due:</b>	March 17, 2023 at 2:00 P.M.		
<b>From:</b>	_____		
<b>Address:</b>	_____ _____		
<b>Deliver To:</b>	Leon County School Board Purchasing Department 3397 West Tharpe Street Tallahassee, Florida 32303		
<b>Sealed Bid – DO NOT OPEN</b>		<b>Sealed Bid – DO NOT OPEN</b>	

## I. GENERAL TERMS AND CONDITIONS

**1. INTRODUCTION:** The purpose and intent of this Invitation to Bid (ITB) is to secure a firm price and to identify a qualified vendor for Sabal Palm Elementary School, Building 1 Roof Restoration and Buildings 2, 3, 4, 7, and 8 Roof Replacements.

Interested firms must hold a current Certificate of Prequalification from the Leon County School Board. Certificates will be valid for one year from the date of School Board approval and must be renewed annually. Instructions are available at: <https://www.leonschools.net/Page/4815>. **Submittals for work from firms not prequalified at the time of submittal will be deemed nonresponsive and will not be considered.**

**2. SCHOOL BOARD CONTACT:** All contact, request for clarifications, and questions regarding this ITB must be directed to the designated Procurement Officer (noted on the title page) via email no later than **March 1, 2023**. The written answers to written questions received will be posted as an addendum to this ITB on the District's website and on DemandStar no later than **March 3, 2023**.

Prospective Bidders shall not contact any member of the Leon County School Board, Superintendent, or staff, except the designated Procurement Officer, regarding this Bid prior to posting of the award recommendation on the LCS Purchasing website. Any contact may result in a Bid being deemed as nonresponsive.

**3. DEFINITIONS:** The term "Bidder" as used within this Invitation to Bid (ITB) refers to the person, company, or organization responding to this ITB. The Bidder is responsible for understanding and complying with the terms and conditions herein. The term "Contractor" refers to the Bidder who is awarded the Contract(s) to deliver the goods or services sought in this ITB. The term "School Board" or "Board" refers to the Leon County School Board located in Leon County, Florida.

**4. BIDDER'S RESPONSIBILITY:** It is the responsibility of the Bidder to obtain all pages of the ITB package and all attachments thereto, together with any addenda to the ITB package that may be issued prior to the ITB due date. ITB package and addenda as well as general information can be found at [www.leonschools.net/Page/4411](http://www.leonschools.net/Page/4411).

Before submitting their Bid, each Bidder is required to carefully examine the ITB specifications and to completely familiarize themselves with all of the terms and conditions that are contained within this request. Ignorance on the part of the Bidder will in no way relieve them of any of the obligations and responsibilities, which are a part of this ITB.

**5. PUBLIC OPENING:** The Bids shall be opened at the date, time and place listed herein, or as amended in the form of an addenda. The names of the Bidders and the price submitted will be read aloud at the public opening. All Bids received after the time indicated will be rejected as non-responsive and returned to sender. The School Board will not accept verbal Bids or those submitted via email or fax. The School Board is not responsible for lost or late delivery of Bids by the U.S. Postal Service or other delivery services used by the Bidder.

A list of the respondents submitting Bids can be requested in writing from the Board's Procurement Officer. In accordance with Section 119.071(1)(b), F.S., sealed bids, proposals, or replies received by an agency pursuant to a competitive solicitation are exempt from Section 119.07(1), F.S., and Section 24(a), Art. I of the State Constitution until such time as the agency provides notice of an intended decision or until thirty (30) days after opening the bids, proposals, or final replies, whichever is earlier. If an agency rejects all bids, proposals, or replies submitted in response to a competitive solicitation and the agency concurrently provides notice of its intent to reissue the competitive solicitation, the rejected bids, proposals, or replies remain exempt from Section 119.07(1), F.S., and Section 24(a), Art. I of the State Constitution until such time as the Board provides notice of an intended decision concerning the reissued competitive solicitation or until the Board withdraws the solicitation.

**6. AWARD:** The Board intends to award the resulting Contract to the responsible Bidder whose responsive Bid is determined to be the lowest total price. In the event the responsible Bidder with the lowest total price is found non-responsive, the Board may proceed to the next responsible Bidder who submitted a responsive Bid with the lowest total price and continue the award process. Any or all award(s) made as a result of this ITB shall conform to all applicable laws, rules, and Board policies and procedures.

It is anticipated that a recommendation for award will be presented to the School Board for consideration at the June 21, 2022 meeting.

**7. ORIGINAL AND RENEWAL TERM:** The School Board intends to issue a purchase order upon Board approval of the award, on or about **March 21, 2023**, with on-site work anticipated to begin upon receiving a Notice to Proceed and substantially completed within 90 days after the vendor receives all roofing materials with final completion 30 days after Substantial Completion. All work must be scheduled with the Board's Project Coordinator. By submitting a Bid, the Bidder agrees that work can be completed within this timeframe.

**8. RESERVATION FOR REJECTION OR AWARD:** The School Board reserves the right to reject any or all bids and to waive minor irregularities or technicalities.

**9. CONTRACT** The submission of a Bid constitutes a firm offer by the Bidder. Upon award by the School Board, the Purchasing Department will issue a purchase order(s) for any supplies, equipment, or services as a result of this ITB. The ITB and the corresponding purchase order(s) will constitute the complete agreement between the successful Bidder and the School Board. Unless otherwise stipulated in the ITB or agreed to in writing by both parties, no other Contract documents shall be issued or accepted.

**10. FIRM OFFER:** Any Bid may be withdrawn until the date and time set for the opening of Bids. Any Bid not withdrawn shall constitute a binding offer to provide the School Board the services/products set forth in this ITB. Such offer shall be held for a period of 90 days from the ITB opening date.

**11. CONFIDENTIALITY:** The District takes its public records responsibilities as provided under Chapter 119, F.S., and Article I, Section 24 of the Florida Constitution, very seriously. If the Bidder considers any portion of the documents, data, or records submitted in response to this solicitation to be confidential, trade secret, or otherwise not subject to disclosure under Chapter 119, F.S., the Florida Constitution, or other authority, the Bidder must also simultaneously provide the District with a separate redacted copy of its Bid and briefly describe in writing the grounds for claiming exemption from the public records law, including the specific statutory citation for such exemption. This redacted copy shall contain the District's solicitation name, number, and the name of the Bidder on the cover, and shall be clearly titled "Redacted Copy." The redacted copy shall be provided to the District at the same time the Bidder submits its Bid to the solicitation, and must only exclude or redact those exact portions which are claimed confidential, proprietary, or trade secret. The Bidder shall be responsible for defending its determination that the redacted portions of its response are confidential, trade secret, or otherwise not subject to disclosure. Further, the Bidder shall protect, defend, and indemnify the District for any and all claims arising from or relating to Bidder's determination that the redacted portions of its response are confidential, proprietary, trade secret, or otherwise not subject to disclosure. If the Bidder fails to submit a Redacted Copy with its Bid, the District is authorized to produce the entire documents, data, or records submitted by the Bidder in answer to a public record request for these records. In no event shall the District, Board, or any of its employees or agents, be liable for disclosing, or otherwise failing to protect, the confidentiality of information submitted in response to this solicitation.

**12. PUBLIC RECORDS LAW:** Pursuant to Chapter 119.071(1), F.S., bids received as a result of this ITB will not become public record until 30 days after the date of opening or until posting a recommendation for award, whichever occurs first. Thereafter, all documents and materials submitted by Bidders in response to this ITB will be open for inspection by any person and in accordance with Chapter 119, F.S. To the extent a Bidder asserts any portion of its Bid is exempt or confidential from disclosure under Florida's public records, the burden shall be on the Bidder to defend this determination.

**13. AUDITS, RECORDS, AND RECORDS RETENTION: REQUIRED PUBLIC RECORDS ACKNOWLEDGEMENT**

To the extent Contractor is required to comply with the Florida Public Records Law, Chapter 119, F.S., in the performance of its duties under this contract, Contractor will specifically:

- A. Keep and maintain public records required by LCSB to perform the service.
- B. Upon request from LCSB's custodian of public records, provide LCSB with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in the Chapter 119, F.S. or as otherwise provided by law.
- C. Ensure that public records that are confidential or exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the Contract term and following completion of the Contract if the Contractor does not transfer the records to LCSB.
- D. Upon completion of the Contract, transfer, at no cost to LCSB, all public records in possession of the Contractor or keep and maintain public records required by LCSB to perform the service. If the Contractor transfers all public records to LCSB upon completion of the Contract, the Contractor shall destroy any duplicate public records that are confidential or exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of the Contract, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to LCSB, upon request of LCSB's custodian of public records, in a format that is compatible with the information technology systems of LCSB.
- E. The failure of the Contractor to comply with the provisions set forth herein shall constitute a default and material breach of this Contract, which may result in immediate termination, with no penalty to LCSB.

**PUBLIC RECORDS NOTICE**

**IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS, JULIE JERNIGAN, AT [JERNIGANJ@LEONSCHOOLS.NET](mailto:JERNIGANJ@LEONSCHOOLS.NET), (850)487-7177, 520 SOUTH APPELYARD DRIVE, TALLAHASSEE, FLORIDA 32304.**

**14. BID PREPARATION COSTS:** Neither the School Board nor its representatives shall be liable for any expenses incurred in connection with the preparation of a response to this ITB.

**15. CLARIFICATIONS AND INTERPRETATIONS:** The School Board reserves the right to allow for clarification of questionable entries, and for the Bidder to withdraw items with obvious mistakes. In the event of a conflict between the General Bid Terms and Conditions and any Special Terms and Conditions attached hereto, the Special Terms and Conditions shall have precedence. Any questions concerning terms, conditions, or specifications shall be directed to the designated Procurement Officer. It is the Bidder's responsibility to assure the receipt of all addendum issued. No person is authorized to give oral interpretations of, or make oral changes to the Bid. Oral statements given before the bid opening date will not be binding. The School Board will consider no interpretations binding unless provided in writing through an Addendum to the solicitation. Addenda will be made available at <http://www.leonschools.net/Domain/195>. Interested parties are responsible for monitoring the School Board website for new, changing, or clarifying information relative to this solicitation.

**16. DEFAULT:** In the event that the awarded Bidder should breach this Contract, the School Board reserves the right to seek all remedies in law and/or in equity.

**17. FUNDING OUT/CANCELLATION OR TERMINATION:**

- A. **WITH CAUSE:** In the event any of the provisions of the Contract are violated by the Bidder, the Superintendent or designee shall give written notice to the Bidder stating the deficiencies and unless the deficiencies are corrected within 10 days, the recommendation will be made to the School Board or its designee for immediate cancellation. Upon cancellation, hereunder the School Board may pursue any and all legal remedies as provided herein and by law.
- B. **AT WILL:** The School Board or its designee reserves the right to terminate the Contract resulting from this ITB at any time and for no reason whatsoever, upon giving 30 days prior written notice to the Bidder. If the Contract should be terminated for convenience as provided herein, the School Board shall be relieved of all obligations under said Contract. The School Board or its designee shall only be required to pay to the successful Bidder that amount of the Contract actually performed to the date of termination.

**18. TIE BID:** According to Section 287.087, F.S. preference in a tied bid shall be awarded to Bidders with drug-free work place programs. Whenever two or more Bids are equal in price, quality, and service, a Bid received from a business that certifies that it has implemented a drug-free work place program shall be given preference in the award process. In the event both Bidders have a drug-free work place, preference shall be awarded in the following order: Local Vendors, as specified in School Board Policy 6450, and then SBE certified, as specified in School Board Policy 6325. If both Bidders meet all requirements, according to standard purchasing practice, the Director of Purchasing will flip a coin to break the tie. The Bidder's company name closest to the letter "A" will always be assigned heads in the coin toss.

**19. DISPUTE:** Any dispute concerning the performance of the terms of the Contract shall be resolved informally with the District's Project Coordinator. Any dispute that cannot be resolved informally shall be reduced to writing and delivered to the District's Divisional Director of Business Services, or designee. The District's Divisional Director of Business Services, or designee, shall decide the dispute, reduce the decision to writing, and deliver a copy to the parties, the Contract representatives, and the District's Contract Administrator.

**20. BID PROTESTS:** Any person desiring to protest the conditions/specifications in this Bid or any Addenda thereto, shall file a written notice of protest within 72 hours after public posting of the Bid, Addendum, or Board decision and shall file a formal written protest within 10 days after the date the Notice of Protest was filed. Saturdays, Sundays and District holidays shall be excluded in the computation of the 72-hour period. If the 10<sup>th</sup> calendar day falls on a Saturday, Sunday or District holiday, the formal written protest must be received on or before 4:30 p.m. of the next calendar day that is not a Saturday, Sunday, or District holiday.

Failure to file a protest within the time prescribed in Section 120.57 (3), F.S., or failure to post the bond or other security required by law within the time allowed for filing a bond shall constitute a waiver of proceedings under Chapter 120, F.S., and School Board Policy 6326.

**21. GOVERNING LAW AND VENUE:** All legal proceedings brought in connection with this ITB or the resulting contract shall only be brought in a state or federal court located in the state of Florida. Venue in state court shall be in Leon County, Florida. Venue in federal court shall be in the United States District Court, Northern District of Florida, Tallahassee Division. Each party hereby agrees to submit to the personal jurisdiction of these courts for any lawsuits filed there against such party arising under or in connection with this ITB. In the event that a legal proceeding is brought for the enforcement of any term of the Contract, or any right arising therefrom, the parties expressly waive their respective rights to have such action tried by jury trial and hereby consent to the use of non-jury trial for the adjudication of such suit. All questions concerning the validity, operation, interpretation, construction and enforcement of any terms, covenants or conditions of this Contract shall in all respects be governed by and determined in accordance with the laws of the State of Florida without giving effect to the choice of law principles thereof and unless otherwise preempted by federal law.

**22. COMPLIANCE WITH STATE/FEDERAL REGULATIONS:** All contracts involving federal funds will contain certain provisions required by applicable sections of CFR 34, Section 80.36(l) and Part 85.510, Section 257.36, F.S. or Chapter 1B, Florida Administrative Code (F.A.C.). The Bidder certifies by signing the B, the Bidder and its principals are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in federally funded transactions and may, in certain instances, be required to provide a separate written certification to this effect.

During the term of any resultant Contract with the School Board, in the event of debarment, suspension, proposed debarment, declared ineligible or voluntarily excluded from participation in federally funded transactions, the Bidder shall immediately notify the Director of Purchasing in writing. Bidders will also be required to provide access to records, which are directly pertinent to the contract and retain all required records for three (3) years after the School Board makes final payment.

**23. COMPLIANCE WITH SCHOOL CODE:** The Bidder agrees to comply with all sections of the Florida K-20 Education Code, Title XLVIII, F.S. as it presently exists and further as it may be amended from time to time. Further, the Contractor agrees that failure to comply with the Florida K-20 Education Code shall constitute a material breach of this Contract and may result in the termination of this Contract by the School Board.

**24. NONDISCRIMINATION NOTIFICATION AND CONTACT INFORMATION:** "No person shall on the basis of sex (including transgender, gender nonconforming and gender identity), marital status, sexual orientation, race, religion, ethnicity, national origin, age, color, pregnancy, disability, military status or genetic information be denied employment, receipt of services, access to or participation in school activities or programs if qualified to receive such services, or otherwise be discriminated against or placed in a hostile environment in any educational program or activity including those receiving federal financial assistance, except as provided by law." No person shall deny equal access or a fair opportunity to meet to, or discriminate against, any group officially affiliated with the Boy Scouts of America, or any other youth group listed in Title 36 of the United States Code as a patriotic society.

**25. SMALL BUSINESS PROGRAM:** The School Board established the Small Business Development Office to support qualified small business participation as specified in School Board Policy 6325.

**26. LOCAL PREFERENCE:** This ITB is subject to the local preference provisions as specified in School Board Policy 6450.

## II. LICENSURE, INSURANCE AND LIABILITY

**1. OCCUPATIONAL LICENSE:** The Contractor shall be responsible for obtaining and maintaining throughout the Contract period any licenses required pursuant to the laws or rules of Leon County, the City of Tallahassee, or the State of Florida.

**2. INDEMNIFICATION:** The Contractor shall be liable and agrees to be liable for, and shall indemnify, defend, and hold the District, Board, its employees, agents, officers, heirs, and assignees harmless from any and all claims, suits, judgments, or damages including court costs and attorney's fees arising out of intentional acts, negligence, or omissions by the Contractor, or its employees or agents, in the course of the operations of the Contract, including any claims or actions brought under Title 42 USC §1983, the Civil Rights Act.

**3. SOVEREIGN IMMUNITY:** Nothing herein is intended to serve as a waiver of sovereign immunity by the School Board. Nothing herein shall be construed as consent by the School Board to be sued by third parties in any matter arising out of any contract. Bidder shall hold harmless and defend the School Board and its agents and employees from all suits and actions, including attorney's fees and all costs of litigation and judgments of any name and description arising out of or incidental to the performance of this contract or work performed there under. This provision shall also pertain to any claims brought against the School Board by an employee of the named Bidder, any Subcontractor, or anyone directly or indirectly employed by any of them. The Bidder's obligation under this provision shall not be limited in any way by the agreed upon contract price as shown in this Contract or the Bidder's limit of, or lack of, sufficient insurance protection.

**4. RISK OF LOSS:** The Bidder assumes the following risks: **(1.)** all risks of loss or damage to all goods, work in process, materials and equipment until the delivery thereof as herein provided; **(2.)** all risks of loss or damage to third persons and their property until delivery of all goods as herein provided; **(3.)** all risks of loss or damage to any property received by the Bidder or held by the Bidder or its suppliers for the account of the School Board, until such property has been delivered to the School Board; **(4)** all risks of loss or damage to any of the goods or part thereof rejected by the School Board, from the time of shipment thereof to Bidder until redelivery thereof to the School Board.

**5. INSURANCE:** Prior to being recommended for award, the selected Vendor has five (5) business days after notification to submit proof of insurance as required. Failure to submit a fully completed certificate of insurance signed by an authorized representative of the insurer providing such insurance coverages may cause the Vendor to be considered non-responsive and not eligible for award of the Contract. Below are the minimum insurance requirements the Contractor(s) must maintain:

- A. General Liability: Limits not less than \$1,000,000 per occurrence for Bodily Injury/ Property Damage; \$1,000,000 General Aggregate. Limits not less than \$1,000,000 for Products/Completed Operations Aggregate.
- B. Workers Compensation: Florida Statutory limits in accordance with Chapter 440; Employer's Liability limits not less than \$100,000/\$100,000/\$500,000 (each accident/disease-each employee/disease-policy limit).
- C. Auto Liability: Owned, Non-Owned, and Hired Auto Liability with Bodily Injury and Property Damage limits of not less than \$1,000,000 Combined Single Limit. If the Contractor does not own any vehicles, hired and non-owned automobile liability coverage in the amount of \$1,000,000 shall be accepted. In addition, an affidavit signed by the Contractor must be furnished to the District indicating the following: "(Contractor Name) does not own any vehicles. In the event the insured acquires any vehicles throughout the term of this agreement, the insured agrees to provide proof of "Any Auto" coverage effective the date of acquisition".

- D. Acceptability of Insurance Carriers: The insurance policies shall be issued by companies qualified to do business in the State of Florida. The insurance companies must be rated at least A-VI by AM Best or Aa3 by Moody's Investor Service.
- E. Verification of Coverage: Proof of insurance must be furnished within 15 days of the award of the Contract.
- F. Required Conditions: Liability policies must contain the following provisions. In addition, the following wording must be included on the Certificate of Insurance:
  - 1) The School Board of Leon County, Florida, its members, officers, employees, and agents are added as additional insured.
  - 2) All liability policies are primary of all other valid and collectible coverage maintained by the School Board of Leon County, Florida.
  - 3) Certificate Holder: The School Board of Leon County, Florida, 2757 W. Pensacola St. Tallahassee, FL 32303
  - 4) The School Board of Leon County, Florida reserves the right to review, reject, or accept any required policies of insurance, including limits, coverage, or endorsements, herein throughout the term of the resulting Contract.

**6. PUBLIC ENTITY CRIMES:** Pursuant to Section 287.133, F.S., a Bidder, person, or affiliate who has been placed on the Convicted Vendors List following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, F.S. for Category Two for a period of 36 months from the date of being placed on the Convicted Vendor List.

**7. AUDITS, RECORDS, AND RECORDS RETENTION:** The School Board reserves the right to inspect and audit all the Bidder's documents and records as they pertain to the products and services delivered under the resulting Contract. Such rights will be exercised with notice to the Bidder to determine compliance with and performance of the terms, conditions, and specifications on all matters, rights and duties, and obligations established by the resulting Contract. Documents/records in any form shall be open to the School Board and may include all correspondence, ordering, payment, inspection, and receiving records, and contracts or sub-contracts that directly or indirectly pertain to the transactions between the School Board and the Bidder.

- A. To establish and maintain books, records, and documents (including electronic storage media) in accordance with generally accepted accounting procedures (GAAP) and practices, which sufficiently and properly reflect all revenues and expenditures of funds provided by the School Board under this Contract.
- B. To retain all Contractor records, financial records, supporting documents, statistical records, and any other documents (including electronic storage media) pertinent to this Contract for a period of five (5) years after termination of the Contract, or if an audit has been initiated and audit findings have not been resolved at the end of five (5) years, the records shall be retained until resolution of the audit findings or any litigation which may be based on the terms of this Contract.
- C. Upon completion or termination of the Contract and at the request of the School Board, the Contractor will cooperate with the School Board to facilitate the duplication and transfer of any said records or documents during the required retention period as specified above.
- D. To assure that these records shall be subject at all reasonable times to inspection, review, or audit by Federal, state, or other personnel duly authorized by the School Board.
- E. Persons duly authorized by the School Board and Federal auditors, pursuant to Title 45, Code of Federal Regulations, Part 92.36 (l) (10), and Title 34, Section 80.36(i), shall have full access to and the right to

examine any of the Contractor's records related to this Contract, regardless of the form in which kept, at all reasonable times for as long as records are retained.

- F. To include these aforementioned audit and record-keeping requirements in all approved subcontracts and assignments.

### III. GOODS AND SERVICES

**1. WARRANTY:** All goods and services furnished by the Bidder, relating to and pursuant to this ITB will be warranted to meet or exceed the Specifications contained herein. In the event of breach, the Bidder will take all necessary action, at Bidder's expense, to correct such breach in the most expeditious manner possible.

**2. PRICING:** All pricing submitted will include all packaging, handling, shipping charges and delivery to any point within Leon County, Florida to a secure area or inside delivery. **The School Board is exempt and does not pay Federal Excise and State of Florida sales taxes.**

**3. QUANTITIES:** Quantities listed in the Bid are estimates provided for Bidder information purposes only. No guarantee is given or implied as to the exact quantities, which will be purchased from this Bid. The School Board reserves the right to increase or decrease all estimated quantities during the term of this Contract or to delete any item or items as it deems appropriate, without affecting the Bid pricing or the terms and conditions of the Bid.

**4. MOST FAVORED CUSTOMER STATUS:** The awarded Bidder shall afford the School Board the most favored customer status for all items herein. Accordingly, if during the term of this Contract, the Contractor offers more favorable promotional or Contract pricing to another entity for the same specification with similar quantities and conditions, the price under this Contract shall be immediately reduced to the lower price. Additionally, if a current state of Florida Contract, or other viable piggyback Contract contains more favorable pricing for the same specification with similar quantities and conditions, the Contractor will be afforded an opportunity to adjust its Contract price to match that of the state of Florida Contract. Should the Contractor decline, LCSB reserves the right to purchase the item(s) from the state of Florida or alternate piggyback Contract.

**5. TERMS OF PAYMENT / INVOICING:** The normal terms of payment will be Net 30 Days from receipt and acceptance of goods or services and the Contractor's invoice. Itemized invoices, each bearing the Purchase Order Number must be mailed on the day of shipment. Invoicing subject to cash discounts will be mailed on the day that they are dated. Retainage in the amount of five percent (5%) shall be withheld until the Work is complete. Upon Leon County School Board approval of request for release of retainage at Final Payment, and upon receipt of all close-out documents, as applicable, the final payment will be processed per Sections 255.078 and 715.12, F.S.)

**6. TRANSPORTATION AND TITLE:** (1) Title to the goods will pass to the School Board upon receipt and acceptance at the destination indicated herein. Until acceptance, the Bidder retains the sole insurable interest in the goods. (2) The shipper will prepay all transportation charges. The School Board will not accept collect freight charges. (3) No premium carriers will be used for the School Board's account without prior written consent of the Director of Purchasing.

### IV. BIDDER REQUIREMENTS

**1. E-VERIFY:** Every Contractor must register with and use the U.S. Department of Homeland Security's E-Verify system to verify the work authorization status of all employees hired during the term of this Agreement and must, upon request, provide evidence of compliance with this provision. Subcontractors shall provide Contractor with an affidavit stating the Subcontractor does not employ, contract with, or subcontract with an unauthorized alien. See Section 448.095, F.S., for all requirements.

**2. LEVEL 2 SCREENING REQUIREMENTS:** The following provisions, which implement the requirements of School Board Policy 8475, Sections



1012.315, 1012.32, 1012.465 (Jessica Lunsford Act), 1012.467 and 1012.468, F.S. are included as additional terms and conditions of the Contract.

**Finger Printing and Background Check:**

The Bidder/Contractor agrees to comply with all requirements of School Board Policy 8475 and Sections 1012.315, 1012.32, 1012.465 (Jessica Lunsford Act), 1012.467 and 1012.468, F.S., by certifying that all employees have completed the mandatory background screenings as required by the referenced policy and statutes and shall provide the School Board with proof of compliance. These certifications will be provided to the Leon County School Board, Safety and Security Department in advance of the Bidder/Contractor providing any services as required herein. The Bidder/Contractor will bear the cost of acquiring the background screening required and any fees imposed by the Florida Department of Law Enforcement and or the School Board to maintain the fingerprints provided with respect to Bidder/Contractor and its employees. Contractor agrees to indemnify and hold harmless the School Board, its officers, agents and employees from any liability in the form of physical injury, death, or property damage resulting from the Contractor's failure to comply with the requirements of these cited policies and statutes. The Bidder/Contractor will follow procedures for obtaining employees background screening as established by the Leon County School Board, Safety and Security Department.

**Where:** Leon County School Board –Safety and Security Department  
2757 W. Pensacola St.  
Tallahassee, Florida 32304

**When:** Monday - Friday  
8:00 a.m. – 5:00 p.m.

**Point of Contact:** Donald Kimbler at 850-487-7293

LCSB Policy 8475 is subject to review and change. As a provision of this Contract, if awarded, any changes made to this policy will automatically become a part of and be incorporated into this Contract. It is the responsibility of the awardee(s) to be aware of any changes that may occur.

**3. RECIPROCITY OF FLORIDA SCHOOL I.D. BADGES:** If a Contractor's employee has a Level II clearance registered with another Florida School Board, they may be able to obtain a Leon County School Board Vendor I.D. badge. The Contractor should check with the LCS Safety and Security Fingerprint Services office to verify clearance and obtain a Vendor I.D. badge.

**4. IDENTIFICATION:** All Contractor personnel, including subcontractor employees when applicable, shall display an identification badge at all times including the employee's name, the Contractor's name and either a physical description or a photograph of the employee. Employees without proper identification shall not be permitted to work under the terms of this Contract.

**5. CONTACT WITH STUDENTS:** No employees or independent contractors, material men, suppliers or anyone involved in any manner with projects resulting from this Bid shall have direct or indirect contact with students at project sites. A violation of this provision shall result in immediate termination of the offender and issuance of a trespass notice from the School Board. The Bidder shall be responsible for insuring compliance by all its employees, independent contractors, and sub-contractors or other persons involved in any manner with projects resulting from this Bid.

**6. WEAPONS AND FIREARMS:** The School Board prohibits any Contractor from possessing, storing, making, or using a weapon, including a concealed weapon, on School Board property and any setting that is under the control and supervision of the School Board as specified in School Board Policy 7217. Violations will be subject to the immediate termination of the Contract.

**7. SMOKING AND TOBACCO PRODUCTS:** Smoking and the use of tobacco products are prohibited on school property, including all buildings and grounds. A fine of \$500.00 may be assessed for the first offense and

termination of the Contract may be imposed for any second or additional offense.

**8. ATTIRE:** Proper attire shall be worn at all times.

- A. Shirts shall be worn while on school property at all times marked with the Contractor's name. No tank tops or undershirts will be permitted.
- B. Clothing displaying nudity, obscene language, obscene symbols, or pro-drug slogans is prohibited.
- C. Proper shoes shall be worn at all times.

**9. INSPECTIONS AND TESTING:** The School Board will have the right to inspect and test any of the goods or services covered by this ITB. All goods or services are subject to the School Board's inspection and approval upon arrival or completion. If rejected, goods will be held for disposal at the Bidder's risk. Such inspection, or the waiver thereof; however, will not relieve the Bidder from full responsibility for furnishing goods or services conforming to the requirements of this Bid or the Bid Specifications, and will not prejudice any claim, right, or privilege the School Board may have because of the use of defective or unsatisfactory goods or service. All deficiencies noted by the School Board will be submitted to the Contractor for correction within 10 calendar days after submission of deficiencies to the Contractor. An additional inspection of the goods or service may be conducted to insure corrective action was taken.

**10. STOP WORK ORDER:** The School Board may at any time, by written notice to the Contractor stop all or any part of the work for this Bid award. Upon receiving such notice, the Contractor will take all reasonable steps to minimize additional costs during the period of work stoppage. The School Board may subsequently either cancel the stop work order resulting in an equitable adjustment in the delivery schedule or the price, or terminate the work in accordance with the provisions of the Bid terms and conditions.

- A. Materials or work are not in conformance with applicable codes, standards, School Board specifications, or accepted industry practices.
- B. The Contractor's activities result in damage to School Board property.
- C. The Contractor's activities interfere with the normal operation of the facility.
- D. Contractor's personnel are not properly licensed to perform the work or as it pertains to school facilities, the Contractor's personnel have not received their Level II background clearances.
- E. Any other condition, situation, or circumstance, which in the opinion of the School Board Authorized Representative would be a detriment to the best interests of the School Board if allowed to persist.

**11. SAFETY:** The Contractor and its employees must comply with the Board's safety policies. The Contractor shall be responsible for instructing their employees in all safety measures. All equipment used by the Bidder shall be free from defects or wear that may in any way constitute a hazard to any person or persons on School Board property. At no time shall equipment be operated without guards, shields, or manufacturers' recommended safety accessories in place and functioning as intended by the manufacturer. All current OSHA safety standards shall be reinforced, including, but not limited to, the following rules:

- A. All OSHA and Federal required safety equipment shall be installed and functioning on all equipment.
- B. All equipment shall be in sound working condition and must meet all OSHA Safety Standards. All workers shall be aware of and trained in the operation of all safety equipment required for this project.
- C. The Contractor shall ensure that employees are equipped with proper safety items such as glasses, hard hats, gloves, and footwear.
- D. All incidents on campus involving School Board property or personnel shall be reported to the Director of Maintenance Services and the Campus Administrator immediately upon occurrence.
- E. All debris shall be removed to an environmentally approved landfill or recycling center.



**12. EMERGENCIES:** In any emergency affecting the safety of persons and property, the awarded Contractor shall act immediately to prevent threatened damage, injury, or loss. Any emergency must be reported to an authorized School Board representative immediately and no later than twenty-four (24) hours from the time that the emergency is discovered by the Contractor.

**13. DAMAGE TO SCHOOL BOARD-OWNED PROPERTY:** Any damage to property, equipment, grounds, and buildings that is caused by the awarded Contractor will be reported to the School Board within 24 hours of discovery. The awarded Contractor will have 10 business days after report to present its written response to the claimed damages. The awarded Contractor, upon approval by an authorized School Board representative, may make repairs that are deemed within its capability. The School Board reserves the right to make immediate repairs to correct damages that are safety hazards or that pose a detrimental effect to the School Board's operations. Costs of any replacement or repairs made by the School Board for damages caused by the awarded Contractor shall be deducted from any monies due to the Contractor. This shall not prevent the School Board from seeking damages should replacement/repair costs exceed the amount of monies owed to the awarded Contractor. When requested, Bidder shall cooperate with any ongoing School Board investigation involving personal injury, economic loss, or damage to the School Board's facilities or personal property therein.

**14. SUBCONTRACTING:** The awarded Contractor(s) shall be the primary service provider(s) and shall perform all requested inspections and repairs. Subcontracting for these base services is not allowed.

- A. The School Board, for work where the Contractor(s) are requested to perform additional services, may allow subcontracting.
- B. Any work or service to be performed by a subcontractor must have the prior approval of the School Board. The School Board reserves the right to reject any subcontractor. Rejection of any subcontractor shall not entitle the Contractor to an adjustment of Bid prices. The Contractor shall inform the School Board Authorized Representative prior to scheduling any subcontractor's visit to any School Board facility.
- C. Failure by the Contractor to have a subcontractor approved by the School Board will not relieve the Contractor of the responsibility to meet, comply with, and fulfill all of the terms and conditions of this Contract.
- D. The Contractor(s) shall be held fully responsible and liable for the supervision and performance of all work performed by subcontractors. The School Board shall not be responsible for the resolution of disputes between the Bidder and any subcontractor.
- E. The personnel of all subcontractors shall meet all of the requirements as stated herein, including, but not limited to LCSB Policy 2.021 and the Jessica Lunsford Act.

**15. ON-CAMPUS DIRECTIVES**

- A. Upon arrival and departure onto any School Board school campus, the Contractor's employees shall enter their company information into the School Log Book provided in the Administrative office of each campus.
- B. Contractor shall strictly limit its operations to the designated work areas and shall not permit any employees to enter any other portions of School Board property without School Board's expressed prior written consent.
- C. All employees shall enter and leave School Board facilities only through the ingress and egress points designated, from time to time, by the School Board.
- D. The Contractor shall be responsible for the removal of all trash and debris occasioned by this Contract. Failure to adhere to this requirement will result in the costs of the performance of this work by others being charged to the Contractor.
- E. Any existing surface or subsurface improvements, including, but not limited to, pavements, curbs, sidewalks, pipes, utilities, footings,

structures, trees and shrubbery, not indicated in the Contract to be removed or altered, shall be protected by Contractor from damage during the prosecution of any project. Any such improvements so damaged shall be restored by Contractor to condition at least equal to that existing at the time of Contractor's commencement of any project.

- F. Proper safety barricades, protective, and covering devices shall be used to divert traffic and protect personnel. Normal safety signs, necessary lighting and temporary fencing/barricades around work areas shall be installed and maintained in accordance with OSHA requirements while the work is in progress. Materials must be secured in accordance with OSHA regulations when not in use.

**16. E-VERIFY:** Per Executive Order 11-116, "The provider agrees to utilize the U.S. Department of Homeland Security's E-Verify system, <https://e-verify.gov/employers>, to verify the employment eligibility of all new employees hired during the Contract term by the Provider. The Provider shall also include a requirement in subContracts that the subcontractor shall utilize the E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the Contract term." Contractors meeting the terms and conditions of the E-Verify System are deemed to comply with this provision.

Beginning January 1, 2021, every public employer, Contractor, and subcontractor shall register with and use the E-Verify system to verify the work authorization status of all newly hired employees. A public employer, Contractor, or subcontractor shall not enter into a Contract unless each party to the Contract registers with and uses the E-Verify system per Section 448.095, F.S.

**THIS DOCUMENT IS CONTINUED ON THE NEXT PAGE**

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## **V. INSTRUCTIONS TO BIDDERS AND SCOPE OF WORK:**

- A. INTENT:** The purpose of this ITB is to identify qualified vendors and establish a Contract for Sabal Palm Elementary School, Building 1 Roof Restoration and Buildings 2, 3, 4, 7 and 8 Roof Replacements, as specified herein. Interested firms must hold a Certificate of Prequalification from the Leon County School Board, Construction & Facilities Department. Certificates will be valid for one (1) year from the date of School Board approval and must be renewed annually. Instructions are available at: <http://www.leonschools.net/Page/4815>.
- B. SCHEDULE:** The Contract resulting from this Bid shall be in effect on or about March 21, 2023, following Board approval. Work will begin upon the Notice to Proceed and be substantially completed within 90 days after the Contractor receives all roofing materials with final completion 30 days after substantial completion.
- C. MINIMUM QUALIFICATIONS:**
1. All Bidders must have three (3) years of experience providing services of similar size and scope contemplated by this ITB.
  2. Qualifications: The Bidder shall provide qualified, skilled, and licensed tradesmen.
- D. MANDATORY PRE-BID MEETING:** Pre-Bid Conference and Site Visit will be held on Wednesday, February 22, 2023, at 9:30 a.m., at Sabal Palm Elementary School, located at 2813 Ridgeway Street, Tallahassee, Florida 32304.

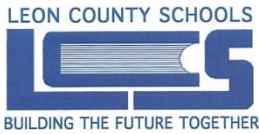
Each Bidder shall have at least one (1) representative, but no more than two (2) present at the mandatory site visit. They are to meet in the front office and document attendance on the conference "sign-in" sheet. Attendees and the District's Project Coordinator will inspect the site. Questions will be answered at that time; however, verbal answers are not binding on the Leon County School Board. Only those questions subsequently submitted in writing during the question and answer period, and answered through an addendum to this ITB will be considered binding upon the Board.

- E. PRICING:** Provide a total base bid price using the Bid Proposal Form. The Contractor shall include in their cost all labor, materials, equipment, tools, transportation, and any other facilities and services required for the proper execution and completion of the work as specified herein. The price is not subject to any material or labor escalation for the entire duration of the Project.
- F. SCOPE OF WORK:**
1. The Bidder's price shall include all goods and services necessary for the roof restoration and replacement at Sabal Palm Elementary School.
  2. The Bidder's work shall meet all requirements specified in Section V. and Exhibit 2, Construction and Specification Documents of this ITB.
  3. The Contractor shall ensure frequent pick-up of all refuse, rubbish, scrap materials, and debris that results from their operations. All rubbish, scrap, etc. shall be removed from the premises. Upon completion of their work, the Contractor shall remove all work materials, tools, equipment, and surplus materials (including replaced hardware) from the work site and leave in ready-to-use condition. The Leon County School Board is not responsible for the loss of tools or supplies.
  4. Fall Protection and Safety Plan: The Contractor shall submit an OSHA-approved fall protection and safety plan which shall include a dedicated safety monitor on the roof and the ground at all times that work is proceeding.
  5. Materials Storage: Shall be coordinated with the Leon County Schools Project Coordinator.
  6. Safety for Walkway: Shall be coordinated with the Leon County Schools Code Enforcement and Compliance Department and any safety equipment such as barricades, fencing, or other safety equipment identified shall be the responsibility of the Contractor.
  7. Quality Assurance:

- a. Perform Work in accordance with the manufacturer's current Application and Installation Guidelines and the NRCA Roofing and Waterproofing Manual.
  - b. Manufacturer Qualifications: Manufacturer: Company specializing in manufacturing products specified in this section with documented ISO 9001 certification and minimum twelve years and experience.
  - c. Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience and a certified Pre-Approved Garland Contractor.
  - d. **Installer's Field Supervision: Maintain a full-time project manager and an installation foreman on the job site during all phases of roofing work while roofing work is in progress.**
  - e. Product Certification: Provide manufacturer's certification that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
  - f. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.
- G. PROPERTY DAMAGE:** The Contractor will be responsible to repair or replace, to the Leon County School Board's satisfaction, any damage caused in pursuit of the work specified herein. Such repairs will be at the sole expense of the awarded Contractor.
- H. BIDDER RESPONSIBILITIES:** Each Bidder is required to carefully examine the ITB delivery schedule, Bid prices and extensions, insurance requirements, licensing requirements, Bid opening date and time, and completely familiarize itself with all of the terms and conditions that are contained within the ITB. Failure to do so on the part of the Bidder will in no way relieve it of any of the obligations and responsibilities which are a part of the ITB.
- I. QUALITY:** All materials used must be new and equal to or exceed specifications. The manufacturer's standard guarantee shall apply.
- J. CONTACT PERSON:** The successful Vendor shall be notified of the name and phone number of the District's Project Coordinator. Only the Project Coordinator may authorize changes to the scope of work by use of a written amendment.
- K. PERMITS:** The Contractor shall apply for and obtain any and all such permits (including, but not limited to building permits) and regulatory approvals as may be required by the Board or any other governmental or administrative agency, in order to legally complete the work required hereunder, and by signing and returning their Bid, Contractor acknowledges that the cost thereof has been included in the base price.
- L. PERFORMANCE AND PAYMENT BONDS:** The Performance and Payment Bonds shall be secured from any agency of a surety or insurance company who shall have an established place of business in the State of Florida and be duly licensed to conduct business there. It is to be furnished as prescribed in Section 255.05 and 1013.47, F.S. In the event the Contract is awarded to the Bidder, the Bidder shall, within eight (8) business days after award, furnish the required Performance and Payment Bonds.

**All questions pertaining to these general specifications should be submitted per section 2. School Board Contact.**

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**Bid Proposal Form**  
**Bid No. 5733-2023 Sabal Palm Elementary School,**  
**Building 1 Roof Restoration and Buildings 2, 3, 4, 7 and 8 Roof**  
**Replacements**

**Vendor Acknowledgment and Approval**

I certify that this Bid is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a Bid for the same materials, supplies or equipment, and in all respects fair and without collusion or fraud. The person signing below acknowledges that all proposed information is accurate and is duly authorized to obligate their company.

Authorized Representative's Name/Title	Authorized Representative's Signature	Date	
Bidder's Name	Telephone Number	FAX Number	
Address	City	State	Zip Code
Area Representative	Telephone Number	FAX Number	

DESCRIPTION	TOTAL BASE BID
<b>Sabal Palm Elementary School, Building 1 Roof Restoration and Buildings 2, 3, 4, 7 and 8 Roof Replacements</b> The work as described with the KEE cap hybrid system to provide a 30-year manufacturer's NDL, edge to edge warranty	\$ _____

**All work shall be completed within 90 days of receiving all roofing materials with Final Completion 30 days of Substantial Completion.**



## ATTACHMENT A CONFLICT OF INTEREST CERTIFICATION

Bidder **must** execute either Section I or Section II hereunder relative to Chapter 112.313(12), F.S. Failure to execute either section may result in the rejection of their Bid.

### SECTION I

I hereby certify that no official or employee of the School Board requiring the goods or services described in these specifications has a material financial interest in this company.

_____ <i>Signature</i>	_____ <i>Company Name</i>
_____ <i>Name of Official (Type or print)</i>	_____ <i>Business Address</i>
	_____ <i>City, State, Zip Code</i>

### SECTION II

I hereby certify that the following named Leon County School Board official(s) and employee(s) having material financial interest(s) (in excess of 5 %) in this company have filed Conflict of Interest Statements with the Supervisor of Elections, 315 South Calhoun Street, Tallahassee, Leon County, FL prior to bid opening.

Name	Title or Position	Date of Filing
_____	_____	_____
_____	_____	_____

_____ <i>Signature</i>	_____ <i>Company Name</i>
_____ <i>Name of Official (Type or print)</i>	_____ <i>Business Address</i>
	_____ <i>City, State, Zip Code</i>



**ATTACHMENT B**  
**APPLICATION FOR VENDOR STATUS**  
(IRS W-9 Facsimile and ACH Direct Payment)

2757 West Pensacola Street – Tallahassee, FL 32304-2998  
FAX TO: (850) 487-7869 or EMAIL TO: [MathisR@leonschools.net](mailto:MathisR@leonschools.net)

COMPANY NAME: \_\_\_\_\_ ☐ New Vendor ☐ Update  
CONTACT PERSON: \_\_\_\_\_ LCSB Employee: ☐ YES ☐ NO  
PHONE NUMBER: \_\_\_\_\_ FAX NUMBER: \_\_\_\_\_  
CORRESPONDENCE ADDRESS: \_\_\_\_\_  
CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP + 4: \_\_\_\_\_

**REMITTANCE INFORMATION**  
*(if different from above)*

CONTACT PERSON: \_\_\_\_\_  
REMITTANCE ADDRESS: \_\_\_\_\_  
CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP + 4: \_\_\_\_\_  
EMAIL ADDRESS: \_\_\_\_\_ WEBSITE: \_\_\_\_\_

**PLEASE CHECK THE APPROPRIATE BOX:**

PLEASE CHECK THE APPROPRIATE BOX: ☐ Individual/ Sole Proprietor ☐ S Corporation ☐ C Corporation ☐ Partnership  
☐ Other \_\_\_\_\_ ☐ LLC – Type (Check one) ☐ C ☐ S ☐ P

TAX ID NUMBER: \_\_\_\_\_ or \_\_\_\_\_  
Federal Employer Identification Number Social Security Number

*Section 6109 of the Internal Revenue Service Code requires you to provide your correct TIN to persons, businesses, or agencies that are required to file information returns with the IRS. Purchase orders will not be issued to vendors who fail to provide a TIN.*

**PLEASE INDICATE THE FOLLOWING:**

**\*Minority Vendor?** ☐ Yes ☐ No *\*If yes, certification is required – (Please submit with form)*  
**Race:** ☐ Caucasian ☐ Hispanic ☐ African American  
☐ American Indian ☐ Asian ☐ Other: \_\_\_\_\_  
**Gender:** ☐ Male ☐ Female

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Date

LCSB site contact requesting vendor: \_\_\_\_\_  
Name Phone and Email

**For LCSB Employee Use Only**

Entered by: \_\_\_\_\_ Date entered: \_\_\_\_\_



**ATTACHMENT B**  
**APPLICATION FOR VENDOR STATUS**  
(IRS W-9 Facsimile and ACH Direct Payment)

<b>Form W-9</b> (Rev. December 2014) Department of the Treasury Internal Revenue Service	<b>Request for Taxpayer Identification Number and Certification</b>	<b>Give Form to the requester. Do not send to the IRS.</b>
<b>Print or type See Specific Instructions on page 2.</b>	<b>1</b> Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	<b>2</b> Business name/disregarded entity name, if different from above	
	<b>3</b> Check appropriate box for federal tax classification; check only one of the following seven boxes: <div style="display: flex; justify-content: space-between;"><div><input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ <small>Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner.</small> <input type="checkbox"/> Other (see instructions) ▶ _____</div><div><input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate</div></div>	
	<b>4</b> Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <small>(Applies to accounts maintained outside the U.S.)</small>	
	<b>5</b> Address (number, street, and apt. or suite no.)	<b>Requester's name and address (optional)</b>
<b>6</b> City, state, and ZIP code		
	<b>7</b> List account number(s) here (optional)	

<b>Part I Taxpayer Identification Number (TIN)</b>																																														
<p>Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I Instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see <i>How to get a TIN</i> on page 3.</p> <p><b>Note.</b> If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td colspan="9" style="text-align: center;"><b>Social security number</b></td></tr><tr><td style="width: 25%;"> </td><td style="width: 25%;"> </td><td style="width: 25%;"> </td><td style="width: 25%;"> </td><td style="width: 25%;"> </td><td style="width: 25%;"> </td><td style="width: 25%;"> </td><td style="width: 25%;"> </td><td style="width: 25%;"> </td></tr><tr><td colspan="9" style="text-align: center;">OR</td></tr><tr><td colspan="9" style="text-align: center;"><b>Employer identification number</b></td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>	<b>Social security number</b>																		OR									<b>Employer identification number</b>																	
<b>Social security number</b>																																														
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<b>Employer identification number</b>																																														

<b>Part II Certification</b>			
<p>Under penalties of perjury, I certify that:</p> <ol style="list-style-type: none"><li>The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and</li><li>I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and</li><li>I am a U.S. citizen or other U.S. person (defined below); and</li><li>The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.</li></ol> <p><b>Certification instructions.</b> You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.</p>			
<b>Sign Here</b>	<table style="width: 100%;"><tr><td style="width: 60%;"><b>Signature of U.S. person ▶</b></td><td style="width: 40%;"><b>Date ▶</b></td></tr></table>	<b>Signature of U.S. person ▶</b>	<b>Date ▶</b>
<b>Signature of U.S. person ▶</b>	<b>Date ▶</b>		

### General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

**Future developments.** Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at [www.irs.gov/fw9](http://www.irs.gov/fw9).

### Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding?* on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.





**ATTACHMENT B**  
**APPLICATION FOR VENDOR STATUS**  
(IRS W-9 Facsimile and ACH Direct Payment)

**Leon County School Board Authorization for ACH Direct Payment**

Finance Department  
2757 West Pensacola Street, Tallahassee, Florida 32304

Payee/Vendor Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Contact E-mail: \_\_\_\_\_

*Complete this section for new enrollments or for financial institution or account changes.*

Select One: ☐ New Enrollment ☐ Financial Institution or Account Change

Bank Name \_\_\_\_\_

Branch (if applicable) \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Transit/Routing Number \_\_\_\_\_

Bank Account Number \_\_\_\_\_

Account Type (check one) \_\_\_\_\_ Checking **OR** \_\_\_\_\_ Savings **OR** \_\_\_\_\_ Personal **OR** \_\_\_\_\_ Business

*I, the undersigned, authorize Leon County School Board to deposit payments directly to the account indicated above and to correct any errors which may occur from the transactions. I also authorize the financial institution named above to post these transactions to that account. This authorization will remain in force until Leon County Schools receives written notice of cancellation from me. I acknowledge that the origination of ACH transactions to my account must comply with the provisions of U.S. law.*

Signature \_\_\_\_\_ Date \_\_\_\_\_

Name (printed) \_\_\_\_\_ Title \_\_\_\_\_

**Complete this section to CANCEL your ACH electronic deposit authorization.**

I, the undersigned, hereby cancel the authorization for the Leon County School Board Finance to originate ACH electronic deposit entries into my checking/savings account. This cancellation is effective as soon as Leon County School Board Finance has reasonable time to act upon it.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Name (printed) \_\_\_\_\_ Title \_\_\_\_\_

Mail the completed form to the address above or email to [marschkak@leonschools.net](mailto:marschkak@leonschools.net)

For LCS use only

Vendor Name \_\_\_\_\_ Date Received \_\_\_\_\_



## ATTACHMENT C DRUG-FREE WORKPLACE CERTIFICATION

The undersigned Bidder, in accordance with Section 287.087, F.S., hereby certifies that

---

\_\_\_\_\_  
Bidder Name

---

1. Publishes a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
  2. Informs employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
  3. Gives each employee engaged in providing the commodities or contractual services sought in this solicitation a copy of the statement specified in Paragraph 1.
  4. In the statement specified in Paragraph 1, notify the employees that, as a condition of working on the commodities or contractual services sought in this solicitation, the employee will abide by the terms of the statement and will notify the employer of any conviction of, a plea of guilty, or nolo contendere to, any violation of Chapter 893, F.S., or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
  5. Imposes sanctions on, or requires satisfactory participation in a drug abuse assistance or rehabilitation program by any employee who is so convicted, as available in their community.
  6. Make a good faith effort to continue to maintain a drug-free workplace through the implementation of Paragraphs 1 thru 5.
- 

As the person authorized to sign this statement, I certify that this company complies fully with the above requirements.

Authorized Officer (Printed Name)

\_\_\_\_\_

Authorized Officer (Signature)

\_\_\_\_\_

Date

\_\_\_\_\_



**ATTACHMENT D**  
**CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY**  
**AND VOLUNTARY EXCLUSIONS -LOWER TIER COVERED TRANSACTIONS**

***(BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS ON THE FOLLOWING PAGE)***

1. The prospective lower tier participant certifies, by submission of this bid, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

---

Organization Name

---

PR/Project Number or Project Name

---

Name(s) of Authorized Representative(s)

---

Title(s) of Authorized Representative(s)

---

Signature(s)

---

Date

## INSTRUCTIONS FOR CERTIFICATION OF DEBARMENT

1. By signing and submitting this form, the prospective lower tier participant is providing the certification set out on the reverse side in accordance with these instructions.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the person to whom this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this form that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
6. The prospective lower tier participant further agrees by submitting this form that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion -Lower Tier Covered Transactions," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Non-procurement List.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.



**ATTACHMENT E  
LOCAL PREFERENCE AFFIDAVIT**

**Bid No. 5733-2023 Sabal Palm Elementary School,  
Building 1 Roof Restoration and Buildings 2, 3, 4, 7 and 8 Roof  
Replacements**

To qualify for the Local Vendor Preference, a Bidder must have a physical location in Leon County (or an Adjacent County), employ at least one (1) person at that location, and have been licensed, as required, for at least six (6) months before the Bid Opening. The Bidder, on a day-to-day basis, should provide the goods/services provided under this Contract substantially from the local business address. Post Office boxes are not acceptable for purposes of obtaining this preference.

By completing this Affidavit, the Bidder affirms that it is a local or Adjacent County Business, as defined by Board Policy 6450.

Please complete the following in support of the self-certification:

**Bidder Name:** \_\_\_\_\_

**Physical Address:** \_\_\_\_\_

**County:** \_\_\_\_\_ **Phone of Local Location:** \_\_\_\_\_

**Phone of Local Location:** \_\_\_\_\_ **Length of Time at this Location:** \_\_\_\_\_

**Is your business certified as a small business enterprise through Leon County Schools?** \_\_\_\_\_

\_\_\_\_\_  
*Authorized Representative (Print)*

\_\_\_\_\_  
*Authorized Representative (Signature)*

STATE OF FLORIDA  
COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me by means of \_\_\_\_\_ physical presence or \_\_\_\_\_ online  
notarization this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_, by \_\_\_\_\_ (name of  
authorized representative) as \_\_\_\_\_ (position title for  
authorized representative) as \_\_\_\_\_ (position title) for  
\_\_\_\_\_  
(Vendor Name).

(NOTARY SEAL)

\_\_\_\_\_  
Notary Signature

\_\_\_\_\_  
Name of Notary (Typed, Printed or Stamped)

Personally Known \_\_\_\_\_ Or Produced Identification \_\_\_\_\_ Type of Identification \_\_\_\_\_



## EXHIBIT 1 MANDATORY RESPONSIVENESS CHECKLIST

- ☐ Bid Proposal
- ☐ Name on Pre-Bid Conference Sign-In Sheet
- ☐ Documentation of Business Experience
  - The Bidder must provide proof of having been in business for three (3) years providing services of the same or similar nature and completed projects of like scope and size contemplated by this ITB.
- ☐ Qualifications:
  - Provide qualified tradesmen that are skilled services of the same or similar nature and completed projects of like scope and size contemplated by this ITB.



## EXHIBIT 2 SPECIFICATIONS & CONSTRUCTION DOCUMENTS

### Sabal Palm Building 1

#### Scope of Work

- Pressure wash entire roof not to exceed 2500 psi
- Removal of identified wet areas of roof and insulation down to the decking
- Install new polyiso insulation in areas that have been removed to meet level height of existing roof
- Install one way vents one per 1000 square feet across the entire roof
- Install a base ply of modified roofing material over identified wet areas with new insulation to extend at least 6 inches onto existing roof
- Install one ply of modified cap sheet roofing material over identified wet areas with new insulation and base sheet to extend at least 9 inches over the existing roof
- Remove existing silicone roof coating from various areas of the roof
- Inspect and repair all edge details per manufacturer's specifications
- Prime entire roof area with asphalt primer per manufacturer's specifications
- Install an asphalt-based coating with reinforced fabric over entire roof with embedded granules that provides a 10-year edge to edge warranty
- Seal all gutter laps and replace any damaged downspouts

#### FLUID APPLIED ROOFING RESTORATION

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Mineral Modified Bitumen Surface Roof Restoration
- B. Accessories
- C. Edge Treatment and Roof Penetration Flashings

##### 1.2 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry: Roof blocking installation and requirements.
- B. Section 07620 - Sheet Metal Flashing and Trim: Metal cap flashing and expansion joints.
- C. Section 07620 - Sheet Metal Flashing and Trim: Weather protection for base flashings.
- D. Section 07710 - Manufactured Roof Specialties: Counter flashing gravel stops, and fascia, scuppers, gutters and downspouts.
- E. Section 15430 - Plumbing Specialties: Piping vents and roof drains.

##### 1.3 REFERENCES

- A. ASTM C 78 - Standard Test Method for Flexural Strength of Concrete.



- B. ASTM C 92 - Standard Test Methods for Sieve Analysis and Water Content of Refractory Materials.
- C. ASTM C 109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars.
- D. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants.
- E. ASTM C 1250 - Standard Test Method for Nonvolatile Content of Cold Liquid-Applied Elastomeric Waterproofing Membranes.
- F. ASTM D 93 - Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester.
- G. ASTM D 562 - Standard Test Method for Consistency of Paints Measuring Krebs Unit (KU) Viscosity Using a Stormer-Type Viscometer.
- H. ASTM D 624 - Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
- I. ASTM D 1002 - Standard Test Method for Apparent Shear Strength of Single-Lap-Joint Adhesively Bonded Metal Specimens by Tension Loading (Metal-to-Metal).
- J. ASTM D 1475 - Standard Test Method For Density of Liquid Coatings, Inks, and Related Products.
- K. ASTM D 2196 - Standard Test Methods for Rheological Properties of Non-Newtonian Materials by Rotational (Brookfield type) Viscometer.
- L. ASTM D 2369 - Standard Test Method for Volatile Content of Coatings.
- M. ASTM D 3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings.
- N. ASTM D 4212 - Standard Test Method for Viscosity by Dip-Type Viscosity Cups.
- O. ASTM D 4402 - Standard Test Method for Viscosity Determination of Asphalt at Elevated Temperatures Using a Rotational Viscometer.
- P. SMACNA Architectural Sheet Metal Manual.
- Q. National Roofing Contractors Association (NRCA) - Roofing and Waterproofing Manual.

#### 1.4 SYSTEM DESCRIPTION

- A. Mineral Modified Bitumen Surface Roof Restoration: Renovation work includes:
  - 1. Surface preparation: Remove dirt, and debris.
  - 2. Fascia Edges: Cut back edges. Prime, coat with mastic, cover with fabric.
  - 3. Parapets and Vertical Surfaces: Cut back and replace fabric base flashings. Prime, coat with mastic, cover with fabric.
  - 4. Metal Flashings: Repair/Replace metal flashings, pitch pockets, etc.
  - 5. Roof Repairs: Repair blisters, stressed or cracked membrane. Cut back, patch with primer/mastic/membrane.
  - 6. Primer: Prime surface of new asphalt only.
  - 7. Full Reinforcement: Apply base coat and Install full fabric reinforcement and topcoat over entire roof surface.
  - 8. Coating: Apply coating over entire roof surface.
  - 9. Install roofing mineral surfacing into the coating while it is wet

## 1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
  - 4. Warranty, sample of manufacturer warranty that will be executed once the project is complete
  - 5. Provide 5 projects of similar size completed utilizing proposed system
- C. Shop Drawings: Submit shop drawings including installation details of fluid applied roofing and flashing prior to job start.
- D. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
  - 1. List of proposed materials with recycled content. Indicate post-consumer recycled content and pre-consumer recycled content for each product having recycled content.
  - 2. Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content.
  - 3. Product reflectivity and emissivity criteria to qualify for one point under the LEED credit category, Credit 7.2, Landscape & Exterior Design to Reduce Heat Island - Roof.
- E. Verification Samples: For each product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, and color.
- F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- G. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic inspection and maintenance of all completed roofing work. Provide product warranty executed by the manufacturer. Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work
- H. **Fall protection and safety plan that is OSHA-approved and includes a dedicated safety monitor on the roof and the ground at all times that work is proceeding.**

## 1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with manufacturer's current Application and Installation Guidelines and the NRCA Roofing and Waterproofing Manual.
- B. Manufacturer Qualifications: Manufacturer: Company specializing in manufacturing products specified in this section with documented ISO 9001 certification and minimum twelve years and experience.
- C. Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience and a certified Pre-Approved Garland Contractor.
- D. **Installer's Field Supervision: Maintain a full-time project manager and an installation foreman on job site during all phases of roofing work while roofing work is in progress.**
- E. Product Certification: Provide manufacturer's certification that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.

- F. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

#### 1.7 PRE-INSTALLATION CONFERENCE

- A. Convene a pre-roofing conference approximately two weeks before scheduled commencement of roofing system installation and associated work.
- B. Require attendance of installers of deck or substrate construction to receive roofing, installers of rooftop units and other work in and around roofing which must precede or follow roofing work including mechanical work Owner, roofing system manufacturer's representative.
- C. Objectives include:
  - 1. Review foreseeable methods and procedures related to roofing work, including set up and mobilization areas for stored material and work area.
  - 2. Tour representative areas of roofing substrates, inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work.
  - 3. Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.
  - 4. Review roofing system requirements, Drawings, Specifications and other Contract Documents.
  - 5. Review and finalize schedule related to roofing work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
  - 6. Review required inspection, testing, certifying procedures.
  - 7. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing.
  - 8. Record conference including decisions and agreements reached. Furnish a copy of records to each party attending.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.
- C. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface. No wet or damaged materials will be used in the application.
- D. Storage temperatures should be between 60 degrees F to 80 degrees F (15.6 degrees to 26.7 degrees C). Indoor ventilated storage is recommended. Ensure jobsite storage is in a shaded and ventilated area. Do not store in direct sunlight. Keep materials away from open flame or welding sparks.
- E. Avoid stockpiling of materials on roofs without first obtaining acceptance from the Owner/Engineer.

## 1.9 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Weather Condition Limitations: Product application must not be done when rain or other conditions such as fog or heavy dew are possible within a 24-hour period. Roof surface must be at least 6 Fahrenheit degrees or 3 Celsius degrees above the dew point and rising.
- C. Proceed with roofing work only when existing and forecasted weather conditions will permit unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.
- D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.
- E. When applying materials with spray equipment, take precautions to prevent over spray and/or solvents from damaging or defacing surrounding walls, building surfaces, vehicles or other property. Care should be taken to do the following:
  - 1. Close air intakes into the building.
  - 2. Have a dry chemical fire extinguisher available at the jobsite.
  - 3. Post and enforce "No Smoking" signs.
- F. Avoid inhaling spray mist; take precautions to ensure adequate ventilation.
- G. Protect completed roof sections from foot traffic for a period of at least 48 hours at 75 degrees F (24 degrees C) and 50 percent relative humidity or until fully cured.
- H. Take precautions to ensure that materials do not freeze.
- I. Minimum temperature for application for most products is 40 degrees F (4 degrees C) and rising for solvent based materials and 50 degrees F (10 degrees C) and rising for water based.

## 1.10 WARRANTY

- A. Warranty Period: 10 years.
  - 1. Upon completion of the work, provide the Manufacturer's written and signed limited labor and materials Warranty, warranting that, if a leak develops in the roof during the term of this warranty, due either to defective material or defective workmanship by the installing contractor, the manufacturer shall provide the Owner, at the Manufacturer's expense, with the labor and material necessary to return the defective area to a watertight condition.
    - a. Mineral Modified Bitumen Surface Roof Restoration
- B. Warranty Period: Installer is to guarantee all work against defects in materials and workmanship for a period indicated following final acceptance of the Work.
  - 1. Warranty Period:
    - a. 2 years from date of acceptance.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Requests for substitutions will be considered in accordance with provisions of Section 01600.

## 2.2 MINERAL MODIFIED BITUMEN SURFACE ROOF RESTORATION

- A. SBS Fluid Applied Roof Restoration:
  - 1. Primer: Asphalt primer approved by fluid applied membrane manufacturer
  - 2. Coating: SBS Fluid Applied Waterproofing Membrane.
  - 3. Flashing: Replace flashings.
  - 4. Reinforcement: full fabric reinforcement.
    - a. Soft Polyester Fabric.
  - 5. Surfacing/Non-Slip/Reflective:
    - a. Mineral.

## 2.3 ACCESSORIES:

- A. Roof Insulation: In accordance with Section 07220.
- B. Nails and Fasteners: Non-ferrous metal or galvanized steel, except that hard copper nails shall be used with copper; aluminum or stainless steel nails shall be used with aluminum; and stainless steel nails shall be used with stainless steel, Fasteners shall be self-clinching type of penetrating type as recommended by the deck manufacturer. Fasten nails and fasteners flush-driven through flat metal discs not less than 1 inch (25 mm) diameter. Omit metal discs when one-piece composite nails or fasteners with heads not less than 1 inch (25 mm) diameter are used.
- C. Urethane Sealant - One part, non-sag sealant as approved and furnished by the membrane manufacturer for moving joints.
  - 1. Tensile Strength, ASTM D 412: 250 psi
  - 2. Elongation, ASTM D 412: 950%
  - 3. Hardness, Shore A ASTM C 920: 35
  - 4. Adhesion-in-Peel, ASTM C 92: 30 pli
- D. Urethane Adhesive - Single component, 100% solids structural adhesive as furnished and recommended by the membrane manufacturer.
  - 1. Elongation, ASTM D 412: 300%
  - 2. Hardness, Shore A, ASTM C 920: 50
  - 3. Shear Strength, ASTM D 1002: 300 psi
- E. Butyl Tape: 100% solids, asbestos free and compressive tape designed to seal as recommended and furnished by the membrane manufacturer.
- F. Non-Shrink Grout: all-weather fast setting chemical action concrete material to fill pitch pans.
  - 1. Flexural Strength, ASTM C 78: (modified) 7 days 1100psi
  - 2. High Strength, ASTM C 109: (modified) 24 days 8400lbs (3810kg)
- G. Pitch Pocket Sealer - Two-part, 100% solids, self-leveling, polyurethane sealant.
- H. Glass Fiber Cant - Glass Cant: Continuous triangular cross Section made of inorganic fibrous glass used as a cant strip as recommended and furnished by the membrane manufacturer.

## 2.4 EDGE TREATMENT AND ROOF PENETRATION FLASHINGS

- A. Flashing Boot - Rubbertite Flashing Boot: Neoprene pipe boot for sealing single or multiple pipe penetrations adhered in approved adhesives as recommended and furnished by the membrane manufacturer.
- B. Vents and Breathers: Heavy gauge aluminum and fully insulated vent that allows moisture

and air to escape but not enter the roof system as recommended and furnished by the membrane manufacturer.

- C. Pitch pans, Rain Collar 24 gauge stainless or 20oz (567gram) copper. All joints should be welded/soldered watertight. See details for design.
- D. Drain Flashing should be 4lb (1.8kg) sheet lead formed and rolled.
- E. Plumbing stacks should be 4lb (1.8kg) sheet lead formed and rolled.
- F. Fabricated Flashing: Fabricated flashings and trim are specified in Section 07620.
  - 1. Fabricated flashings and trim shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the CDA Copper Development Association "Copper in Architecture - Handbook" as applicable.
- G. Manufactured Roof Specialties: Manufactured copings, fascia, gravel stops, control joints, expansion joints, joint covers and related flashings and trim are specified in Section 07710.
  - 1. Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the NRCA "Roofing and Waterproofing Manual" as applicable.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify that work penetrating the roof deck, or which may otherwise affect the roofing, has been properly completed.
- C. If substrate preparation is the responsibility of another installer, notify Owner of unsatisfactory preparation before proceeding.

### 3.2 ROOF PREPARATION AND REPAIR

- A. General: All necessary field and flashing repairs must be done according to good construction practices, including the removal of all wet insulation and defective materials as identified through a moisture detection survey such as an infrared scan and replacement with like-materials.
  - 1. Remove damaged roof flashings from curbs and parapet walls down to the surface of the roof. Remove damaged existing flashings at roof drains and roof penetrations.
  - 2. Remove all wet, deteriorated, blistered or delaminated roofing membrane or insulation and fill in any low spots with like materials occurring as a result of removal work to create a smooth, even surface for application of new roof membranes.
  - 3. Install new wood nailers as necessary to accommodate insulation/recovery board or new nailing patterns.
  - 4. When mechanically attached, the fastening pattern for the insulation/recovery board shall be as recommended by the specific product manufacturer.
  - 5. Existing roof surfaces shall be primed as necessary and allowed to dry prior to installing the roofing system.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Repair all defects such as deteriorated roof decks, saturated materials, loose or brittle membrane or membrane flashings, etc. Verify that existing conditions meet the following requirements :
  - 1. Existing membrane is either fully adhered or that the membranes mechanical

- fasteners are secured and functional.
- 2. Application of roofing materials over a brittle, damaged or poor condition roof membrane is not permitted.
- D. Remove all loose dirt and foreign debris from the roof surface. Do not damage roof membrane in cleaning process.
- E. Clean and seal all parapet walls, gutters and coping caps, and repair any damaged metal where necessary. Seal watertight all fasteners, pipes, drains, vents, joints and penetrations where water could enter the building envelope.
- F. Confirm local water run-off ordinances and restrictions prior to cleaning roof. Clean the entire roof surface by removing all dirt, algae, mold, moss, paint, oil, talc, rust or other foreign substance. Use a bio-degradable cleaner like Simple Green Oxy Solve when necessary and warm water. Scrub heavily soiled areas with a brush. Power wash roof thoroughly with an industrial surface cleaner equipped with one piece balanced spray rotating jets for streak free close contact cleaning. Rinse with fresh water to completely remove all residuals. Allow roof to dry thoroughly before continuing.
- G. Repair existing roof membrane as necessary to provide a sound substrate for the liquid membrane. All surface defects must be repaired/renovated and be made watertight. Any repairs must be with only with materials compatible with the fluid-applied roofing restoration system.

### 3.3 INSTALLATION

- A. General Installation Requirements:
  - 1. Install in accordance with manufacturer's current Application and Installation Guidelines and the NRCA Roofing and Waterproofing Manual.
  - 2. Adequate coating thickness is essential to performance. If the applicator is unfamiliar in gauging application rates, we suggest that a controllable area be measured and the specified material be applied. In all cases, all minimum specified material must be applied and proper minimum dry film thicknesses must be achieved. Care must be taken to ensure that all areas completed including all flashings, roof penetrations, etc. are coated sufficiently to ensure a watertight seal.
  - 3. Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing the roof system.
  - 4. Insurance/Code Compliance: Where required by code, install and test the roofing system to comply with governing regulation and specified insurance requirements.
  - 5. Protect work from spillage of roofing materials and prevent materials from entering or clogging drains and conductors. Replace or restore adjacent work damaged by installation of the roofing system.
  - 6. All primers must be top coated within 24 hours of application. Re-prime if more time passes after priming.
  - 7. Keep roofing materials dry during application.
  - 8. Coordinate counter flashing, cap flashings, expansion joints and similar work with work specified in other Sections under Related Work.
  - 9. Coordinate roof accessories and miscellaneous sheet metal accessory items, including piping vents and other devices with work specified in other Sections under Related Work.
- B. Mineral Modified Bitumen Surface Roof Restoration: Renovation work includes:
  - 1. Surface preparation: Remove dirt, and debris.
    - a. Previously coated roofs with well-adhered polyurethane or polyurea coating surfacing must be solvent-wiped with acetone after cleaning to reactivate surface for overcoating.
  - 2. Flashings:



- a. Fascia Edges: Cut back edges. Prime, coat with mastic, cover with membrane.
- b. Parapets and Vertical Surfaces: Cut back and replace fabric base flashings. Prime, coat with mastic, cover with fabric.
- c. Metal Flashings: Repair/Replace metal flashings, pitch pockets, etc.
- 3. Primer: Prime roof surfaces at a rate of 0.5 gallons per 100 SF.
- 4. Full Reinforcement with Base Coat: Install full fabric reinforcement in base coat on the entire roof surface.
  - a. Begin reinforcement at flashing laps and penetration details.
  - b. Where required to reduce the height of the overlaps, apply additional coating or a bead of single component non-sagging sealant that contains no solvents into side and end laps and allow to skin over.
  - c. On field surfaces run fabric parallel to the low edge using a shingling method up the slope with minimum 3 inch fabric laps.
  - d. After positioning reinforcement to roll out, apply Coating 40 inches wide to surface where reinforcement ply is to be applied at a rate of 3.5 gallons per 100 SF for mineral modified bitumen.
  - e. Do not apply coating too far ahead of fabric so coating does not dry before fabric can be embedded.
  - f. Immediately roll a 40 inch width of reinforcement into wet coating.
  - g. Ensure roller is fully saturated with coating and backroll over the reinforcement surface to fully saturate fabric.
  - h. Use care to lay the fabric tight to the roof surface without air pockets, wrinkles, fishmouths, etc.
  - i. Lap adjacent rolls of reinforcement 3 inches and end laps 3 inches.
  - j. Allow to dry, but no more than 72 hours before applying top coat. If not coated within 72 hours, solvent wipe with acetone, let dry and immediately apply coating.
- 5. Coating: Apply coating to entire roof surface. Use special attention to coating flashings and other critical areas to build adequate membrane thickness
  - a. SBS Fluid Applied Roof Restoration:
    - 1) Apply Coating at 3.5 gallons per 100 SF.
- 6. Surfacing Non-Slip: Mineral surfaced systems.

### 3.4 REPAIR OF EDGE TREATMENT AND ROOF PENETRATION FLASHING

- A. General
  - 1. Repair flashing in accordance with the requirements/recommendations of the Membrane manufacturer and as indicated on the manufacturer's standard drawings. Provide system with base flashing, edge flashing, penetration flashing, counter flashing, and all other flashings required for a complete watertight system.
  - 2. Install and repair flashings concurrently with the roofing as the job progresses.
  - 3. Terminate flashings as required by the membrane manufacturer.
- B. Manufactured Roof Specialties: Manufactured copings, fascia, gravel stops, control joints, expansion joints, joint covers and related flashings and trim are provided as specified in Section 07710.
  - 1. Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the National Roofing Contractor's Association "Roofing and Waterproofing Manual" as applicable.
- C. Repairs of Existing Roof Penetrations and Flashings
  - 1. Metal Edge:
    - a. Inspect the nailers to assure proper attachment and configuration.
    - b. Run one ply over the edge. Assure coverage of all wood nailers. Fasten plies with ring shank nails at 8 inches (203 mm) o.c.
    - c. Install continuous cleat and fasten at 6 inches (152 mm) o.c.

- d. Install new metal edge hooked to continuous cleat and set in bed of roof cement. Fasten flange to wood nailers every 3 inches (76 mm) o.c. staggered.
  - e. Prime metal edge at a rate of 100 square feet per gallon and allow to dry.
  - f. Strip in flange with base flashing ply covering entire flange in bitumen with 6 inches (152 mm) on to the field of roof. Assure ply laps do not coincide with metal laps.
  - g. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Seal outside edge with rubberized cement.
2. Roof Edge With Gutter:
- a. Inspect the nailer to assure proper attachment and configuration. Increase slope at metal edge by additional degree of slope in first board.
  - b. Run one ply over the edge. Assure coverage of all wood nailers. Fasten plies with ring shank nails at 8 inches (203 mm) o.c.
  - c. Install gutter and strapping.
  - d. Install continuous cleat and fasten at 6 inches (152 mm) o.c.
  - e. Install new metal edge hooked to continuous cleat and set in bed of roof cement. Fasten flange to wood nailer every 3 inches (76 mm) o.c. staggered.
  - f. Prime metal edge at a rate of 100 square feet per gallon and allow to dry.
  - g. Strip in flange with base flashing ply covering entire flange in bitumen with 6 inches (152 mm) onto the field of the roof. Assure ply laps do not coincide with metal laps.
  - h. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
3. Scupper Through Roof Edge:
- a. Inspect the nailer to assure proper attachment and configuration.
  - b. Run one ply over the edge. Assure coverage of all wood nailers. Fasten plies with ring shank nails at 8 inches (203 mm) o.c.
  - c. Install a scupper box in a 1/4 inch (6 mm) bed of mastic. Assure all box seams are soldered and have a minimum 4 inch (101 mm) flange. Make sure all corners are closed and soldered. Prime scupper at a rate of 100 square feet per gallon and allow to dry.
  - d. Fasten flange of scupper box to nailer every 3 inches (76mm) o.c. staggered.
  - e. Strip in edge with base flashing ply covering entire area in bitumen with 6 inches (152 mm) on to the field of the roof.
  - f. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all seams.
4. Scupper Through Wall:
- a. Inspect the nailer to assure proper attachment and configuration.
  - b. Run one ply over nailer, into scupper hole and up flashing as in typical wall flashing detail. Assure coverage of all wood nailers.
  - c. Install a scupper box in a 1/4 inch (6 mm) bed of mastic. Assure all box seams are soldered and have a minimum 4 inch (101 mm) flange. Make sure all corners are closed and soldered. Prime scupper at a rate of 100 square feet per gallon and allow to dry.
  - d. Fasten flange of scupper box every 3 inches (76 mm) o.c. staggered.
  - e. Strip in flange of scupper box with base flashing ply covering entire area with 6 inch (152 mm) overlap on to the field of the roof and wall flashing.
  - f. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all seams.
5. Coping Cap:
- a. Minimum flashing height is 8 inches (203 mm) above finished roof height. Maximum flashing height is 24 inches (609 mm). Prime vertical wall at a rate of 100 square feet per gallon and allow to dry.

- b. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
  - c. Install base flashing ply covering entire wall and wrapped over top of wall and down face with 6 inches (152 mm) on to field of the roof and set in cold asphalt. Nail membrane at 8 inches (203 mm) o.c.
  - d. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all seams and allow to cure and aluminize.
  - e. Install coping cap per manufacturer's recommendations.
6. Surface Mounted Counterflashing/Coping Cap:
- a. Minimum flashing height is 8 inches (203 mm) above finished roof height. Prime vertical wall at a rate of 100 square feet per gallon and allow to dry.
  - b. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
  - c. Install base flashing ply covering wall set in bitumen with 6 inches (152 mm) on to field of roof.
  - d. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all seams and allow to cure and aluminize.
  - e. Apply butyl tape to wall behind flashing. Secure termination bar through flashing, butyl tape and into wall. Alternatively use caulk to replace the butyl tape.
  - f. Secure counterflashing set on butyl tape above flashing. Fasten 8 inches (203 mm) o.c. and caulk top of counterflashing.
  - g. Attach tapered board to top of wall (minimum slope 1/4 -12). Do not use organic fiberboard or perlite.
  - h. Cover tapered board and all exposed wood with base flashing ply. Fasten inside and out at 8 inches (203 mm) o.c.
  - i. Install continuous cleat and fasten at 6 inches (152 mm) o.c. to outside wall.
  - j. Install new metal coping cap hooked to continuous cleat.
  - k. Fasten inside of cap 24 inch (609 mm) o.c. with approved fasteners and neoprene washers.
7. Surface Mounted Counterflashing:
- a. Minimum flashing height is 8 inches (203 mm) above finished roof height. Maximum flashing height is 24 inches (609 mm). Prime vertical wall at a rate of 100 square feet per gallon and allow to dry.
  - b. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
  - c. Install base flashing ply covering wall set in bitumen with 6 inches (152 mm) on to field of the roof.
  - d. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
  - e. Apply butyl tape to wall behind flashing. Secure termination bar through flashing, butyl tape and into wall. Alternatively use caulk to replace the butyl tape.
  - f. Secure counterflashing set on butyl tape above flashing at 8 inches (203 mm) o.c. and caulk top of counterflashing.
8. Base Flashing For Non-Supported Deck:
- a. Inspect the nailer to assure proper attachment and configuration. The wood cant strip should be mechanically attached to the vertical and horizontal wood nailers.
  - b. Install compressible insulation in neoprene cradle between wall and vertical wood nailer.
  - c. Prime vertical wall at a rate of 100 square feet per gallon and allow to dry.

- d. Install base flashing ply covering entire wall and wrapped to top of wood nailer with 6 inches (152 mm) on to field of the roof. Nail membrane at 8 inches (203 mm) o.c.
  - e. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
  - f. Attach counterflashing through wall flashing at a spacing of 24 inches (609 mm) o.c.
9. Expansion Joint:
- a. Minimum curb height is 8 inches (203 mm) above finished roof height. Chamfer top of curb. Prime vertical curb at a rate of 100 square feet per gallon and allow to dry.
  - b. Mechanically attach wood cant to expansion joint nailers. Run all field plies over cant a minimum of 2 inches (50 mm).
  - c. Install compressible insulation in neoprene cradle.
  - d. Install base flashing ply covering curb set in bitumen with 6 inches (152 mm) on to field of the roof.
  - e. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Attach top of membrane to top of curb and nail at 8 inches (203 mm) o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
  - f. Install pre-manufactured expansion joint cover. Fasten sides at 12 inches (609 mm) o.c. with fasteners and neoprene washers. Furnish all joint cover laps with butyl tape between metal covers.
10. Equipment Support:
- a. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical at a rate of 100 square feet per gallon and allow to dry.
  - b. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
  - c. Install base flashing ply covering curb set in bitumen with 6 inches (152 mm) on to field of the roof.
  - d. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Attach top of membrane to top of curb and nail at 8 inches (203 mm) o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
  - e. Install pre-manufactured cover. Fasten sides at 24 inches (609 mm) o.c. with fasteners and neoprene washers. Furnish all joint cover laps with butyl tape between metal covers.
  - f. Set equipment on neoprene pad and fasten as required by equipment manufacturer.
11. Skylight:
- a. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical at a rate of 100 square feet per gallon and allow to dry.
  - b. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
  - c. Install base flashing ply covering curb set in bitumen with 6 inches (152 mm) on to field of the roof.
  - d. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Attach top of membrane to top of wood nailer and apply a three-course application of mastic and mesh. Allow to cure and aluminize.
  - e. Install pre-manufactured lens and fasten flashing sides at 8 inches (203 mm) o.c. with fasteners and neoprene washers.
12. Roof Drain:
- a. Plug drain to prevent debris from entering plumbing.

- b. Taper insulation to drain minimum of 24 inches (609 mm) from center of drain.
  - c. Run roof system plies over drain. Cut out plies inside drain bowl.
  - d. Set lead/copper flashing (30 inch square minimum) in 1/4 inch bed of mastic. Run lead/copper into drain a minimum of 2 inches (50 mm). Prime lead/copper at a rate of 100 square feet per gallon and allow to dry.
  - e. Install base flashing ply (40 inch square minimum) in bitumen.
  - f. Install modified membrane (48 inch square minimum) in bitumen.
  - g. Install clamping ring and assure that all plies are under the clamping ring.
  - h. Remove drain plug and install strainer.
13. Roof Drain Alternate:
- a. Plug drain to prevent debris from entering plumbing.
  - b. Taper insulation to drain minimum of 24 inches (609 mm) from center of drain.
  - c. Install two base flashing plies (40 inch square minimum) in bitumen.
  - d. Set lead/copper flashing (30 inch square minimum) in 1/4 inch (6 mm) bed of mastic. Run lead/copper into drain a minimum of 2 inches (50 mm). Prime lead/copper at a rate of 100 square feet per gallon and allow to dry.
  - e. Run roof system plies over drain. Cut out plies inside drain bowl.
  - f. Install modified membrane (48 inch square minimum) in bitumen.
  - g. Install clamping ring and assure that all plies are under the clamping ring.
  - h. Remove drain plug and install strainer.
14. Plumbing Stack:
- a. Minimum stack height is 12 inches (609 mm).
  - b. Run roof system over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.
  - c. Prime flange of new sleeve. Install properly sized sleeves set in 1/4 inch (6 mm) bed of roof cement.
  - d. Install base flashing ply in bitumen.
  - e. Install membrane in bitumen.
  - f. Caulk the intersection of the membrane with elastomeric sealant.
  - g. Turn sleeve a minimum of 1 inch (25 mm) down inside of stack.
15. Heat Stack:
- a. Minimum stack height is 12 inches (609 mm).
  - b. Run roof system over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.
  - c. Prime flange of new sleeve. Install properly sized sleeves set in 1/4 inch (6 mm) bed of roof cement.
  - d. Install base flashing ply in bitumen.
  - e. Install modified membrane in bitumen.
  - f. Caulk the intersection of the membrane with elastomeric sealant.
  - g. Install new collar over cape. Weld collar or install stainless steel draw band.
16. Pitch Pocket:
- a. Run all plies up to the penetration.
  - b. Place the pitch pocket over the penetration and prime all flanges.
  - c. Strip in flange of pitch pocket with one ply of base flashing ply. Extend 6 inches (152 mm) onto field of roof.
  - d. Install second layer of modified membrane extending 9 inches (228 mm) onto field of the roof.
  - e. Fill pitch pocket half full with non-shrink grout. Let this cure and top off with pourable sealant.
  - f. Caulk joint between roof system and pitch pocket with roof cement.
- D. Liquid Flashing:
- 1. Mask target area on roof membrane with tape.
  - 2. Clean all non-porous areas with isopropyl alcohol.
  - 3. Apply 32 wet mil base coat of liquid flashing over masked area.
  - 4. Embed polyester reinforcement fabric into the base coat of the liquid flashing.

5. Apply 48-64 wet mil top coat of the liquid flashing material over the fabric extending 2 inches (51 mm) past the scrim in all directions.
6. Apply minerals immediately or allow the liquid flashing material to cure 15-30 days and then install reflective coating.

### 3.5 CLEANING

- A. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles and other debris resulting from these operations.
- B. Remove coating markings from finished surfaces.
- C. Repair or replace defaced or disfigured finishes caused by Work of this section.

### 3.6 PROTECTION

- A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.
- B. Protect exposed surfaces of finished walls with tarps to prevent damage.
- C. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.
- D. In addition to the plywood listed above, an underlayment of minimum 1/2 inch (13 mm) recover board is required on new roofing.
- E. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

### 3.7 FIELD QUALITY CONTROL

- A. Require attendance of roofing materials manufacturers' representatives 3 days per 5 working days to be at work site during installation of the roofing system.
- B. Perform field inspection and [and testing] as required under provisions of Section 01410.
- C. Correct defects or irregularities discovered during field inspection.
- D. Manufacturing representative will provide weekly progress reports with photos. Progress reports will include any irregularities in workmanship, field conditions, and remedies.
- E. Manufacturer representative will have the authority to approve workmanship and proper application of roofing system

### 3.8 FINAL INSPECTION

- A. At completion of roofing installation and associated work, meet with Contractor, Owner, installer, installer of associated work, roofing system manufacturer's representative and others directly concerned with performance of roofing system.
- B. Walk roof surface areas, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. Identify all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. If core cuts verify the presence of damp or wet materials, the installer shall be required to replace the damaged areas at his own expense.
- D. Repair or replace deteriorated or defective work found at time above inspection as required

to produce an installation that is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

- E. Notify owner upon completion of corrections.
- F. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.

### 3.9 SCHEDULES

- A. Primers:
  - 1. Primer: Non-fibered, quick drying, asphalt based roof primer having the following characteristics:
    - a. Viscosity by Zahn Cup #2 ASTM D 4212: 18-21 sec
    - b. Flash Point: ASTM D 93 100 degrees F (37.70C)
    - c. Non-Volatile (ASTM D 2369): 47.6%
    - d. V.O.C. ASTM D 3960 470 g/l
- B. Reinforcement:
  - 1. Strong, rigid polyester reinforcing fabric.
    - a. Tensile Strength ASTM D 3766, 75.3 lbs (34.2 kg).
    - b. Tear Strength, 17.4 lbs (7.89 kg).
    - c. Elongation ASTM D 3786, 44.25%
    - d. Weight per Area, 3 oz./sq yd. (102 g/m2)
    - e. Mullen Burst, ASTM D 3786: 139 lbs. (63 kg)
- C. Coatings:
  - 1. Coating: Multi-purpose: rubberized, liquid waterproofing membrane designed to restore and upgrade fire ratings on existing smooth surfaced SBS, aged APP, and built-up roof surfaces.
    - a. Non-Volatile, ASTM C 1250: Typical 80%
    - b. Density, ASTM D 1475: 10 lbs./gal (1.21 g/cm3)
    - c. Viscosity @ 77 degrees F (25 degrees C), Brookfield RVT, Spindle #5, 50 rpm: Typical 15,000/25,000 cP
    - d. Flash Point, ASTM D 93: Minimum 100 degrees F (37.7 degrees C)
    - e. Elongation @ 77 degrees F (25 degrees C), ASTM D 412: Typical 275%
    - f. Water Absorption: Less than 0.7%
    - g. Compound Stability: Passes 200 degrees F (93.3 degrees C)
    - h. Accelerated Weathering Test (Q-UV; UVB-313 bulbs): Passes 2,000 hrs. exposure.
    - i. VOC: 250 g/l
- D. Surfacing: Topping.
  - 1. Surfacing: Reflective/Non-Skid
    - a. Mineral/Non-Skid.

END OF SECTION

## Sabal Palm Buildings 2, 3, 4, and 7

### Scope of Services

- Removal of identified wet areas of roof and insulation down to the decking
- Install new polyiso insulation in areas that have been removed to meet level height of existing roof
- Install one way vent in identified wet areas where new insulation has been installed
- Raise any curb or plumbing stacks that does not meet the minimum height required by the manufacturer
- Install new 2x6 to roof edge mechanically fastened per manufacturer's specifications
- Install two inch polyiso fully adhered per manufacturer's specifications over existing roof
- Install one half inch securock cover board fully adhered per manufacturer's specifications over new polyiso
- Install one layer of base ply per manufacturers specifications
- Install astm 6754 KEE fleeceback roofing membrane with a minimum thickness of 50 mills
- Install new edge metal in accordance with warranty standards from the manufacturer
- Seal all gutter laps and replace any damaged downspouts

### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Hot Applied 2-Ply Thermoplastic Hybrid Roof System
- B. Accessories. (2.19)

#### 1.2 RELATED SECTIONS

- A. Section \_\_\_\_\_ - Roof Deck Substrate Preparation.
- B. Section 05300 - Metal Roof Deck.
- C. Section 06100 - Rough Carpentry.
- D. Section 06114 - Wood Blocking and Curbing: Wood nailers and cant strips.
- E. Section 07220 - Insulation Board: Insulation and fastening.
- F. Section 07620 - Sheet Metal Flashing and Trim: Weather protection for base flashings.
- G. Section 07710 - Manufactured Roof Specialties: Counter flashing gravel stops, and fascia.
- H. Section 07724 - Roof Hatches: Frame and integral curb; Counter flashing.
- I. Section 08620 - Unit Skylights: Skylight frame and integral curb and counter flashing.
- J. Section 08630 - Metal-Framed Skylights: Skylight frame and integral curb and counter flashing.
- K. Section 08950 - Translucent Wall and Roof Assemblies: Counter flashing



- L. Section 08960 - Sloped Glazing Assemblies: Counter flashing.
- M. Section 15120 - Piping Specialties: Roof Drains, Sumps.

### 1.3 REFERENCES

- A. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
- B. ASTM D 312 - Standard Specification for Asphalt used in Roofing.
- C. ASTM D 451 - Standard Test Method for Sieve Analysis of Granular Mineral Surfacing for Asphalt Roofing Products.
- D. ASTM D 1079 Standard Terminology Relating to Roofing, Waterproofing and Bituminous Materials.
- E. ASTM D 1227 Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing.
- F. ASTM D 1863 Standard Specification for Mineral Aggregate Used as a Protective Coating for Roofing.
- G. ASTM D 2178 Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing.
- H. ASTM D 4586 Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- I. ASTM D 4601 Standard Specification for Asphalt Coated Glass Fiber Base Sheet Used in Roofing.
- J. ASTM D 5147 Standard Test Method for Sampling and Testing Modified Bituminous Sheet Materials.
- K. ASTM D 6163 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.
- L. ASTM D 6754 - Standard Specification for Ketone Ethylene Ester (KEE) Sheet Roofing.
- M. ASTM E 108 - Standard Test Methods for Fire Test of Roof Coverings
- N. Factory Mutual Research (FM): Roof Assembly Classifications.
- O. National Roofing Contractors Association (NRCA): Roofing and Waterproofing Manual.
- P. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual.
- Q. Underwriters Laboratories, Inc. (UL): Fire Hazard Classifications.
- R. Warnock Hersey (WH): Fire Hazard Classifications.
- S. ANSI-SPRI ES-1 Wind Design Standard for Edge Systems used with Low Slope Roofing Systems.
- T. ASCE 7, Minimum Design Loads for Buildings and Other Structures
- U. UL - Fire Resistance Directory.

- V. FM Approvals - Roof Coverings and/or RoofNav assembly database.
- W. FBC - Florida Building Code.

#### 1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Perform work in accordance with all federal, state and local codes.
- B. Design Requirements:
  - 1. Uniform Wind Uplift Load Capacity
    - a. Installed roof system shall withstand negative (uplift) design wind loading pressures complying with the following criteria.
      - 1) Design Code: ASCE 7, Method 2 for Components and Cladding.
      - 2) Importance Category:
        - a) III.
      - 3) Importance Factor of:
        - a) 1.0
      - 4) Wind Speed: 130 mph
      - 5) Ultimate Pullout Value:        pounds per each of the fastener
      - 6) Exposure Category:
        - a) B.
- C. Energy Star: Roof System shall comply with the initial and aged reflectivity required by the U.S. Federal Government's Energy Star program.
- D. LEED: Roof system shall meet the reflectivity and emissivity criteria to qualify for one point under the LEED credit category, Credit 7.2, Landscape & Exterior Design to Reduce Heat Island - Roof.
- E. Roof System membranes containing recycled or bio-based materials shall be third party certified through UL Environment.
- F. Roof system shall have been tested in compliance with the following codes and test requirements:
  - 1. Cool Roof Rating Council:
    - a. CRRC Directory CRRC
  - 2. International Code Council Evaluation Service (ICC-ES):
    - a. Membrane Systems
      - 1) ESR-
    - b. Roofing Underlayments
      - 1) Underlayments ESR-
      - 2) Surfacing UDL ESR-

#### 1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation instructions.
- C. Shop Drawings: Submit shop drawings including installation details of roofing, flashing, fastening, insulation and vapor barrier, including notation of roof slopes and fastening patterns of insulation and base modified bitumen membrane, prior to job start.
- D. Design Pressure Calculations: Submit design pressure calculations for the roof area in accordance with ASCE 7 and local Building Code requirements. Include a roof system

attachment analysis report, certifying the system's compliance with applicable wind load requirements before Work begins.

- E. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
  - 1. List of proposed materials with recycled content. Indicate post-consumer recycled content and pre-consumer recycled content for each product having recycled content.
  - 2. Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content.
  - 3. Product reflectivity and emissivity criteria to qualify for one point under the LEED credit category, Credit 7.2, Landscape & Exterior Design to Reduce Heat Island - Roof.
- F. Recycled or Bio-Based Materials: Provide third party certification through UL Environment of roof System membranes containing recycled or bio based materials.
- G. Verification Samples: For each modified bituminous membrane ply product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.
- H. Manufacturer's Certificates: Provide to certify products meet or exceed specified requirements.
- I. Test Reports: Submit test reports, prepared by an independent testing agency, for all modified bituminous sheet roofing, indicating compliance with ASTM D5147. Testing must be performed at 77 deg. F. Tests at 0 deg. F will not be considered.
- J. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic inspection and maintenance of all completed roofing work. Provide product warranty executed by the manufacturer. Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work
- K. **Fall protection and safety plan that is OSHA approved and includes a dedicated safety monitor on the roof and the ground at all times that work is proceeding.**

#### 1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with NRCA Roofing and Waterproofing Manual.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified with documented ISO 9001 certification and minimum of twelve years of documented experience and must not have been in Chapter 11 bankruptcy during the last five years.
- C. Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience.
- D. **Installer's Field Supervision: Maintain a full-time project manager and an installation foreman on job site during all phases of roofing work while roofing work is in progress.**
- E. Product Certification: Provide manufacturer's certification that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- F. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Owner, submit Manufacturer's written

approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

#### 1.7 PRE-INSTALLATION MEETINGS

- A. Convene minimum two (2) weeks prior to commencing Work of this section.
- B. Review installation procedures and coordination required with related Work.
- C. Inspect and make notes of job conditions prior to installation:
  - 1. Record minutes of the conference and provide copies to all parties present.
  - 2. Identify all outstanding issues in writing designating the responsible party for follow-up action and the timetable for completion.
  - 3. Installation of roofing system shall not begin until all outstanding issues are resolved to the satisfaction of the Owner.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.
- C. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface except store KEE-Stone FB 60 rolls flat on a clean flat surface. No wet or damaged materials will be used in the application.
- D. Store at room temperature wherever possible, until immediately prior to installing the roll. During winter, store materials in a heated location with a 50 degree F (10 degree C) minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.
- E. Avoid stockpiling of materials on roofs without first obtaining acceptance from the Owner/Engineer.
- F. Adhesive storage shall be between the range of above 50 degree F (10 degree C) and below 80 degree F (27 degree C). Area of storage shall be constructed for flammable storage.

#### 1.9 COORDINATION

- A. Coordinate Work with installing associated metal flashings as work of this section proceeds.

#### 1.10 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

#### 1.11 WARRANTY

- A. Upon completion of the work, provide the Manufacturer's written and signed Edge-To-Edge NDL System Warranty, warranting that, if a leak develops in the roof during the term of this warranty, due either to defective material or defective workmanship by the installer, the manufacturer shall provide the Owner, at the Manufacturer's expense, with the labor and material necessary to return the defective area to a watertight condition including metal

components.

1. Warranty Period:
  - a. 30 years from date of acceptance.
- B. Installer is to guarantee all work against defects in materials and workmanship for a period indicated following final acceptance of the Work.
  1. Warranty Period:
    - a. 5 years from date of acceptance.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Requests for substitutions will be considered in accordance with provisions of Section 01600.
- B. The Products specified are intended and the Standard of Quality for the products required for this project. If other products are proposed the bidder must disclose in the bid the manufacturer and the products that they intend to use on the Project. If no manufacturer and products are listed, the bid may be accepted only with the use of products specified.
  1. Bidder will not be allowed to change materials after the bid opening date.
  2. If alternate products are included in the bid, the products must be equal to or exceed the products specified. Supporting technical data shall be submitted to the Owner for approval prior to acceptance.
  3. In making a request for substitution, the Bidder/Roofing Contractor represents that it has:
    - a. Personally investigated the proposed product or method, and determined that it is equal or superior in all respects to that specified.
    - b. Will provide the same guarantee for substitution as for the product and method specified.
    - c. Will coordinate installation of accepted substitution in work, making such changes as may be required for work to be completed in all respects.
    - d. Will waive all claims for additional cost related to substitution, which consequently become apparent.
    - e. Cost data is complete and includes all related cost under his/her contract or other contracts, which may be affected by the substitution.
    - f. Will reimburse the Owner for all redesign for accommodation of the substitution.
  4. Owner reserves the right to be the final authority on the acceptance or rejection of any or all bids, proposed alternate roofing systems or materials that has met ALL specified requirement criteria.
  5. Failure to submit substitution package, or any portion thereof requested, will result in immediate disqualification and consideration for that particular contractors request for manufacturer substitution.

### 2.2 HOT APPLIED 2-PLY THERMOPLASTIC HYBRID ROOF SYSTEM -

- A. Base (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive:
  1. ASTM 6163 Type III
- B. Thermoplastic Cap (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive (2).
  1. ASTM 6754
- C. Interply Adhesive: (1)
  1. Hot Bitumen ASTM D 36
- D. Interply Adhesive (2):

1. Hot Bitumen ASTM D 36
- E. Flashing Base Ply: One ply bonded to the prepared substrate Flashing Ply Adhesive (1):
  1. ASTM 6163 Type III
- F. Flashing Cap (Ply) Sheet: One ply bonded to the prepared substrate with Flashing Ply Adhesive ( 1 ):
  1. ASTM 6754
- G. Flashing Ply Adhesive ( 1 ):
  1. Hot Bitumen ASTM D 36
- H. Flashing Ply Adhesive (2):
  1. Hot Bitumen ASTM D 36

## 2.3 ACCESSORIES:

- A. Roof Insulation: In accordance with Section 07220.
- B. Roof Insulation: Provide USG Securock for proper adhesion of the self-adhered base sheet in accordance with Section 07220.
- C. Urethane Sealant Hybrid - One part, non-sag sealant as approved and furnished by the membrane manufacturer for moving joints.
  1. Tensile Strength, ASTM D 412: 250 psi
  2. Elongation, ASTM D 412: 450%
  3. Hardness, Shore A ASTM C 920: 35
  4. Adhesion-in-Peel, ASTM C 92: 30 pli
- D. Sealant -Single component, 100% solids structural adhesive as furnished and recommended by the membrane manufacturer.
  1. Elongation, ASTM D 412: 300%
  2. Hardness, Shore A, ASTM C 920: 50
  3. Shear Strength, ASTM D 1002: 300 psi
- E. Non-Shrink all weather fast setting chemical action concrete material to fill pitch pans.
  1. Flexural Strength, ASTM C 78: (modified) 7 days 1100psi
  2. High Strength, ASTM C 109: (modified) 24 days 8400lbs (3810kg)
- F. Pitch Pocket Sealer -Two part, 100% solids, self-leveling, polyurethane sealant for filling pitch pans as recommended and furnished by the membrane manufacturer.
  1. Durometer, ASTM D 2240: 40-50 Shore
  2. Elongation, ASTM D 412: 250%
  3. Tensile Strength, ASTM D 412: 200 at 100 mil
- G. Glass Fiber Cant – Roxul Non-Combustible: Continuous triangular cross Section made of inorganic fibrous glass used as a cant strip as recommended and furnished by the membrane manufacturer.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Inspect and approve the deck condition, slopes and fastener backing if applicable, parapet walls, expansion joints, roof drains, stack vents, vent outlets, nailers and surfaces and elements.

- C. Verify that work penetrating the roof deck, or which may otherwise affect the roofing, has been properly completed.
- D. If substrate preparation and other conditions are the responsibility of another installer, notify Owner of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. General: Clean surfaces thoroughly prior to installation.
  - 1. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
  - 2. Fill substrate surface voids that are greater than 1/4 inch wide with an acceptable fill material.
  - 3. Roof surface to receive roofing system shall be smooth, clean, free from loose gravel, dirt and debris, dry and structurally sound.
  - 4. Wherever necessary, all surfaces to receive roofing materials shall be power broom and vacuumed to remove debris and loose matter prior to starting work.
  - 5. Do not apply roofing during inclement weather. Do not apply roofing membrane to damp, frozen, dirty, or dusty surfaces.
  - 6. Fasteners and plates for fastening components mechanically to the substrate shall provide a minimum pull-out capacity of 300 lbs. (136 k) per fastener. Base or ply sheets attached with cap nails require a minimum pullout capacity of 40 lb. per nail.
  - 7. Prime decks where required, in accordance with requirements and recommendations of the primer and deck manufacturer.
- B. Metal Deck: Metal deck shall be installed as specified in Section
  - 1. Fastening of the deck should comply with the anticipated live and dead loads pertaining to the building as well as applicable Code.
  - 2. Steel decks shall be minimum 22-gauge factory galvanized or zinc alloy coated for protection against corrosion.
  - 3. Suitable insulation shall be mechanically attached as recommended by the insulation manufacturer.
  - 4. Decks shall comply with the gauge and span requirements in the current Factory Mutual FM Approval Guide and be installed in accordance with Loss Prevention Data Sheet 1-28 or specific FM approval.
  - 5. When re-roofing over steel decks, surface corrosion shall be removed, and repairs to severely corroded areas made. Loose or inadequately secured decking shall be fastened, and irreparable or otherwise defective decking shall be replaced.
- C. Precast concrete:
  - 1. Decks shall be clean, dry, fully cured and free of flaws and attached securely to the supporting structure as recommended by the deck manufacturer.
  - 2. All joints shall be caulked or grouted.
  - 3. Concrete surfaces to receive roofing shall be fully primed at the rate of 1 gallon per 100 sq. ft.
  - 4. When applying roofing or insulation directly to the deck with asphalt, prime with asphalt/concrete primer, ASTM D41, at a rate of 1 gal/square (.4 L/m<sup>2</sup>) and allow the primer to dry prior to the application of the roofing system. Hold back bitumen at the joints approximately 4 inches (102 mm) to prevent bitumen drippage.
  - 5. Deck joints shall be stripped in with a 12 inch (305 mm) wide strip of modified membrane unadhered a minimum of 2 inches (51 mm) immediately on either side of the joint.

### 3.3 INSTALLATION - GENERAL

- A. Install modified bitumen membranes and flashings in accordance with manufacturer's instructions and with the recommendations provided by the National Roofing Contractors

Association's Roofing & Waterproofing Manual, the Asphalt Roofing Manufacturers Association, and applicable codes.

- B. General: Avoid installation of modified bitumen membranes at temperatures lower than 40-45 degrees F. When work at such temperatures unavoidable use the following precautions:
  - 1. Take extra care during cold weather installation and when ambient temperatures are affected by wind or humidity, to ensure adequate bonding is achieved between the surfaces to be joined. Use extra care at material seam welds and where adhesion of the applied product to the appropriately prepared substrate as the substrate can be affected by such temperature constraints as well.
  - 2. Unrolling of cold materials, under low ambient conditions must be avoided to prevent the likelihood of unnecessary stress cracking. Rolls must be at least 40 degrees F at the time of application. If the membrane roll becomes stiff or difficult to install, it must be replaced with roll from a heated storage area.
- C. Commence installation of the roofing system at the lowest point of the roof (or roof area), working up the slope toward the highest point. Lap sheets shingle fashion so as to constantly shed water
- D. All slopes greater than 2:12 require back-nailing to prevent slippage of the ply sheets. Use ring or spiral-shank 1 inch cap nails, or screws and plates at a rate of 1 fastener per ply (including the membrane) at each insulation stop. Place insulation stops at 16 ft o.c. for slopes less than 3:12 and 4 feet o.c. for slopes greater than 3:12. On non-insulated systems, nail each ply directly into the deck at the rate specified above. When slope exceeds 2:12, install all plies parallel to the slope (strapping) to facilitate backnailing. Install 4 additional fasteners at the upper edge of the membrane when strapping the plies.

### 3.4 INSTALLATION HOT APPLIED ROOF SYSTEM

- A. Base/Felt Ply(s): Install base sheet or felt plies in twenty five (25) lbs (11.3kg) per square of bitumen shingled uniformly to achieve one or more plies over the entire prepared substrate. Shingle in direction of slope of roof to shed water on each area of roof. Do not step on base rolls until asphalt has cooled, fish mouths should be cut and patched.
  - 1. Lap ply sheet ends 8 inches (203 mm). Stagger end laps 2 inches (304mm) minimum.
  - 2. Install base flashing ply to all perimeter and projection details after membrane application.
  - 3. Extend plies 2 inches beyond top edges of cants at wall and projection bases.
  - 4. Install base flashing ply to all perimeter and projection details.
  - 5. Allow the one ply of base sheet to cure at least 30 minutes before installing the modified membrane. However, the modified membrane must be installed the same day as the base plies.
- B. Thermoplastic Cap Ply: Allow plies to relax before installing. Install in interplay adhesive applied at the rate required by the manufacturer. Shingle sheets uniformly over the prepared substrate to achieve the number of plies specified. Shingle in proper direction to shed water on each large area of roofing.
  - 1. All field seams exceeding 10 feet in length shall be welded with an approved automatic welder.
  - 2. All field seams must be clean and dry prior to initiating any field welding. Remove foreign materials from the seams (dirt, oils, etc.) with acetone or authorized alternative. Use CLEAN WHITE COTTON cloths and allow approximately five minutes for solvents to dissipate before initiating the automatic welder. Do not use denim or synthetic rags for cleaning.
  - 3. Contaminated areas within a membrane seam will inhibit proper welding and will require a membrane patch or strip.
  - 4. All welding shall be performed only by qualified personnel to ensure the quality and continuity of the weld. The lap or seam area of the membrane may be intermittently



- tack welded to hold the membrane in place.
  5. The back interior edge of the membrane shall be welded first, with a thin, continuous weld to concentrate heat along the exterior edge of the lap during the final welding pass.
  6. Follow local code requirements for electric supply, grounding and surge protection. The use of a dedicated, portable generator is highly recommended to ensure a consistent electrical supply, without fluctuations that can interfere with weld consistency.
  7. Properly welded seams shall utilize a 1.5 inch wide nozzle, to create a homogeneous weld, a minimum of 1.5 inches in width
  8. Use care to eliminate adhesive from getting on the side laps of the thermoplastic membrane.
  9. Install subsequent rolls of thermoplastic membrane as above with a minimum of 4 inch (101 mm) side laps and butted together end laps and cover with a heat welded utility strip. Stagger end laps.
  10. Apply membrane in the same direction as the previous layers but stagger the laps so they do not coincide with the laps of the base layers.
  11. Extend membrane 2 inches (50 mm) beyond top edge of all cants in the specified adhesive at the specified application rate.
- C. Fibrous Cant Strips: Provide non-combustible perlite or glass fiber cant strips at all wall/curb detail treatments where angle changes are greater than 45 degrees. Cant may be set in approved cold adhesives, hot asphalt or mechanically attached with approved plates and fasteners.
- D. Wood Blocking, Nailers and Cant Strips: Provide wood blocking, nailers and cant strips as specified in Section 06114.
1. Provide nailers at all roof perimeters and penetrations for fastening membrane flashings and sheet metal components.
  2. Wood nailers should match the height of any insulation, providing a smooth and even transition between flashing and insulation areas.
  3. Nailer lengths should be spaced with a minimum 1/8 inch gap for expansion and contraction between each length or change of direction.
  4. Nailers and flashings should be fastened in accordance with Factory Mutual "Loss Prevention Data Sheet 1- 49, Perimeter Flashing" and be designed to be capable of resisting a minimum force of 200 lbs/lineal foot in any direction.
- E. Metal Work: Provide metal flashings, counter flashings, parapet coping caps and thru-wall flashings as specified in Section 07620 or Section 07710. Install in accordance with the SMACNA "Architectural Sheet Metal Manual" or the NRCA Roofing Waterproofing manual.
- F. Termination Bar: Provide a metal termination bar or approved top edge securement at the terminus of all flashing sheets at walls and curbs. Fasten the bar a minimum of 8 inches (203 mm) o/c to achieve constant compression. Provide suitable, sealant at the top edge if required.
- G. Flashing Base Ply: Install flashing sheets by the same application method used for the base ply.
1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
  2. Prepare all walls, penetrations, expansion joints and surfaces to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
  3. Adhere to the underlying base flashing ply with specified hot material unless otherwise noted in these specifications. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
  4. Solidly adhere the entire sheet of flashing membrane to the substrate.

5. Seal all vertical laps of flashing membrane with a three-course application of trowel-grade mastic and mesh.
  6. Coordinate counter flashing, cap flashings, expansion joints, and similar work with modified bitumen roofing work as specified.
  7. Coordinate roof accessories, miscellaneous sheet metal accessory items, including piping vents and other devices with the roofing system work.
- H. Flashing Cap Ply: Install flashing cap sheets by the same application method used for the cap ply.
1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
  2. Prepare all walls, penetrations, expansion joints and where shown on the Drawings to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
  3. Adhere to the underlying base flashing ply with specified flashing ply adhesive unless otherwise specified. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
  4. Coordinate counter flashing, cap flashings, expansion joints and similar work with modified bitumen roofing work as specified.
  5. Coordinate roof accessories, miscellaneous sheet metal accessory items with the roofing system work.
  6. All stripping shall be installed prior to flashing cap sheet installation.
  7. Heat and scrape granules when welding or adhering at cut areas and seams to granular surfaces at all flashings.
  8. Secure the top edge of the flashing sheet using a termination bar only when the wall surface above is waterproofed, or nailed 4 inches on center and covered with an acceptable counter flashing.
- I. Roof Walkways: Provide walkways in areas indicated on the Drawings.

### 3.5 CLEANING

- A. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles and other debris resulting from these operations.
- B. Remove asphalt markings from finished surfaces.
- C. Repair or replace defaced or disfigured finishes caused by Work of this section.

### 3.6 PROTECTION

- A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.
- B. Protect exposed surfaces of finished walls with tarps to prevent damage.
- C. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.
- D. In addition to the plywood listed above, an underlayment of minimum 1/2 inch (13 mm) recover board is required on new roofing.
- E. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

### 3.7 FIELD QUALITY CONTROL

- A. Inspection: Provide manufacturer's field observations at start-up and at intervals of approximately 30 percent, 60 percent and 90 percent completion. Provide a final inspection upon completion of the Work.
  1. Warranty shall be issued upon manufacturer's acceptance of the installation.
  2. Field observations shall be performed by a Representative employed full-time by the manufacturer and whose primary job description is to assist, inspect and approve membrane installations for the manufacturer.
  3. Provide observation reports from the Sales Representative indicating procedures followed, weather conditions and any discrepancies found during inspection.
  4. Provide a final report from the Sales Representative, certifying that the roofing system has been satisfactorily installed according to the project specifications, approved details and good general roofing practice.

### 3.8 SCHEDULES

- A. Base (Ply) Sheet:
  1. 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet reinforced with a dual fiberglass reinforced scrim, performance requirements according to ASTM D 5147.
    - a. Tensile Strength, ASTM D 5147
      - 1) 2 in/min. at 73.4 +/- 3.6 deg. F MD 225 lbf/in XD 225 lbf/in
      - 2) 50 mm/min. at 23 +/- 2 deg. C MD 39.0 kN/m XD 39 kN/m
    - b. Tear Strength, ASTM D 5147
      - 1) 2 in/min. at 73.4 +/- 3.6 deg. F MD 300 lbf XD 300 lbf
      - 2) 50 mm/min. at 23 +/- 2 deg. C MD 1335 N XD 1335 N
    - c. Elongation at Maximum Tensile, ASTM D 5147
      - 1) 2 in/min. at 73.4 +/- 3.6 deg. F MD 7% XD 7%
      - 2) 50 mm/min. at 23 +/- 2 deg. C MD 7% XD 7%
    - d. Low Temperature Flexibility, ASTM D 5147, Passes -30 deg. F (-34.4 deg. C)
- B. Thermoplastic/Modified Cap (Ply) Sheet:
  1. Minimum of 50 mil thermoplastic, ketone ethylene ester (KEE) roofing membrane with polyester scrim. ASTM D6754
    - a. Breaking Strength, ASTM D 751, Proc. B, strip
      - 1) 375 lbf. (1,668 N)
    - b. Tear Strength ASTM D 751
      - 1) 120 lbf. min. (534 N)
    - c. Elongation at Break (%), ASTM D 751, Proc. B, Strip
      - 1) 40.0%
- C. Interply Adhesive:
  1. Hot Bitumen, premium SEBS polymer modified asphalt based adhesive having the following characteristics:
    - a. Softening Point 203 deg. F - 221 deg. F
    - b. Flash Point 525 deg. F
    - c. Penetration at 77 deg. F 50-70 units
    - d. Ductility at 77 deg. F 50 cm
    - e. Elongation 1100%
    - f. Flexibility (10 Mandrel) Pass 0 deg. F
- D. Flashing Base Ply:
  1. 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet reinforced with a dual fiberglass reinforced scrim, performance requirements according to ASTM D 5147.
    - a. Tensile Strength, ASTM D 5147
      - 1) 2 in/min. at 73.4 +/- 3.6 deg. F MD 225 lbf/in XD 225 lbf/in
      - 2) 50 mm/min. at 23 +/- 2 deg. C MD 39.0 kN/m XD 39 kN/m

- b. Tear Strength, ASTM D 5147
      - 1) 2 in/min. at 73.4 +/- 3.6 deg. F MD 300 lbf XD 300 lbf
      - 2) 50 mm/min. at 23 +/- 2 deg. C MD 1335 N XD 1335 N
    - c. Elongation at Maximum Tensile, ASTM D 5147
      - 1) 2 in/min. at 73.4 +/- 3.6 deg. F MD 7% XD 7%
      - 2) 50 mm/min. at 23 +/- 2 deg. C MD 7% XD 7%
    - d. Low Temperature Flexibility, ASTM D 5147:
      - 1) Passes -30 deg. F (-34.4 deg. C)
- E. Flashing Ply Adhesive:
  - 1. Hot Bitumen, premium SEBS polymer modified asphalt based adhesive having the following characteristics:
    - a. Softening Point 203 deg. F - 221 deg. F
    - b. Flash Point 525 deg. F
    - c. Penetration at 77 deg. F 50-70 units
    - d. Ductility at 77 deg. F 50 cm
    - e. Elongation 1100%
    - f. Flexibility (10 Mandrel) Pass 0 deg. F
- F. Surfacing:
  - 1. Flashing Cap (Ply) Sheet:
    - a. 60 mil thermoplastic, ketone ethylene ester (KEE) roofing membrane with polyester scrim. ASTM D 6754.
      - 1) Breaking Strength, ASTM D 751, Proc. B, strip
        - a) 378 lbf
      - 2) Tear Strength ASTM D 751
        - a) 120 lbf. minimum.
      - 3) Elongation at Break (%), ASTM D 751, Proc. B, Strip
        - a) 40.0%

END OF SECTION

## Sabal Palm Building 8

### Scope of Work

- Remove existing roofing and insulation down to steel decking.
- Inspect steel decking and perform any repairs or replacement that may be needed base price to include a square foot price for decking replacement and a square foot price for the application of rust inhibitor over lightly rusted areas that are deemed by the chosen engineer to be structurally sound.
- Install new polyiso insulation meeting a minimum of R25 per manufacturer's specifications.
- Install ½" securock cover board over new insulation per manufacturer's specifications
- Install one layer of base sheet per manufacturer's specifications
- Install astm 6754 KEE fleeceback roofing membrane fully adhered per manufacturers specifications
- Install new flashings per manufacturer's specifications
- Provide a 30 year edge to edge warranty
- Remove old gutters
- Install new .040 aluminum 7 inch box gutters and extruded aluminum downspouts

### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Hot Applied 2-Ply Thermoplastic Hybrid Roof System
- B. Accessories. (2.19)

#### 1.2 RELATED SECTIONS

- A. Section \_\_\_\_\_ - Roof Deck Substrate Preparation.
- B. Section 05300 - Metal Roof Deck.
- C. Section 06100 - Rough Carpentry.
- D. Section 06114 - Wood Blocking and Curbing: Wood nailers and cant strips.
- E. Section 07220 - Insulation Board: Insulation and fastening.
- F. Section 07620 - Sheet Metal Flashing and Trim: Weather protection for base flashings.
- G. Section 07710 - Manufactured Roof Specialties: Counter flashing gravel stops, and fascia.
- H. Section 07724 - Roof Hatches: Frame and integral curb; Counter flashing.
- I. Section 08620 - Unit Skylights: Skylight frame and integral curb and counter flashing.
- J. Section 08630 - Metal-Framed Skylights: Skylight frame and integral curb and counter

flashing.

- K. Section 08950 - Translucent Wall and Roof Assemblies: Counter flashing
- L. Section 08960 - Sloped Glazing Assemblies: Counter flashing.
- M. Section 15120 - Piping Specialties: Roof Drains, Sumps.

### 1.3 REFERENCES

- A. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
- B. ASTM D 312 - Standard Specification for Asphalt used in Roofing.
- C. ASTM D 451 - Standard Test Method for Sieve Analysis of Granular Mineral Surfacing for Asphalt Roofing Products.
- D. ASTM D 1079 Standard Terminology Relating to Roofing, Waterproofing and Bituminous Materials.
- E. ASTM D 1227 Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing.
- F. ASTM D 1863 Standard Specification for Mineral Aggregate Used as a Protective Coating for Roofing.
- G. ASTM D 2178 Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing.
- H. ASTM D 4586 Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- I. ASTM D 4601 Standard Specification for Asphalt Coated Glass Fiber Base Sheet Used in Roofing.
- J. ASTM D 5147 Standard Test Method for Sampling and Testing Modified Bituminous Sheet Materials.
- K. ASTM D 6163 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.
- L. ASTM D 6754 - Standard Specification for Ketone Ethylene Ester (KEE) Sheet Roofing.
- M. ASTM E 108 - Standard Test Methods for Fire Test of Roof Coverings
- N. Factory Mutual Research (FM): Roof Assembly Classifications.
- O. National Roofing Contractors Association (NRCA): Roofing and Waterproofing Manual.
- P. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual.
- Q. Underwriters Laboratories, Inc. (UL): Fire Hazard Classifications.
- R. Warnock Hersey (WH): Fire Hazard Classifications.
- S. ANSI-SPRI ES-1 Wind Design Standard for Edge Systems used with Low Slope Roofing Systems.
- T. ASCE 7, Minimum Design Loads for Buildings and Other Structures
- U. UL - Fire Resistance Directory.

- V. FM Approvals - Roof Coverings and/or RoofNav assembly database.
- W. FBC - Florida Building Code.

#### 1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Perform work in accordance with all federal, state and local codes.
- B. Design Requirements:
  - 1. Uniform Wind Uplift Load Capacity
    - a. Installed roof system shall withstand negative (uplift) design wind loading pressures complying with the following criteria.
      - 1) Design Code: ASCE 7, Method 2 for Components and Cladding.
      - 2) Importance Category:
        - a) III.
      - 3) Importance Factor of:
        - a) 1.0
      - 4) Wind Speed: 130 mph
      - 5) Ultimate Pullout Value:        pounds per each of the fastener
      - 6) Exposure Category:
        - a) B.
- C. Energy Star: Roof System shall comply with the initial and aged reflectivity required by the U.S. Federal Government's Energy Star program.
- D. LEED: Roof system shall meet the reflectivity and emissivity criteria to qualify for one point under the LEED credit category, Credit 7.2, Landscape & Exterior Design to Reduce Heat Island - Roof.
- E. Roof System membranes containing recycled or bio-based materials shall be third party certified through UL Environment.
- F. Roof system shall have been tested in compliance with the following codes and test requirements:
  - 1. Cool Roof Rating Council:
    - a. CRRC Directory CRRC
  - 2. International Code Council Evaluation Service (ICC-ES):
    - a. Membrane Systems
      - 1) ESR-
    - b. Roofing Underlayments
      - 1) Underlayments ESR-
      - 2) Surfacing UDL ESR-

#### 1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation instructions.
- C. Shop Drawings: Submit shop drawings including installation details of roofing, flashing, fastening, insulation and vapor barrier, including notation of roof slopes and fastening patterns of insulation and base modified bitumen membrane, prior to job start.
- D. Design Pressure Calculations: Submit design pressure calculations for the roof area in accordance with ASCE 7 and local Building Code requirements. Include a roof system attachment analysis report, certifying the system's compliance with applicable wind load requirements before Work begins.

- E. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
  - 1. List of proposed materials with recycled content. Indicate post-consumer recycled content and pre-consumer recycled content for each product having recycled content.
  - 2. Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content.
  - 3. Product reflectivity and emissivity criteria to qualify for one point under the LEED credit category, Credit 7.2, Landscape & Exterior Design to Reduce Heat Island - Roof.
- F. Recycled or Bio-Based Materials: Provide third party certification through UL Environment of roof System membranes containing recycled or bio based materials.
- G. Verification Samples: For each modified bituminous membrane ply product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.
- H. Manufacturer's Certificates: Provide to certify products meet or exceed specified requirements.
- I. Test Reports: Submit test reports, prepared by an independent testing agency, for all modified bituminous sheet roofing, indicating compliance with ASTM D5147. Testing must be performed at 77 deg. F. Tests at 0 deg. F will not be considered.
- J. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic inspection and maintenance of all completed roofing work. Provide product warranty executed by the manufacturer. Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.
- K. **Fall protection and safety plan that is OSHA approved and includes a dedicated safety monitor on the roof and the ground at all times that work is proceeding.**

#### 1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with NRCA Roofing and Waterproofing Manual.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified with documented ISO 9001 certification and minimum of twelve years of documented experience and must not have been in Chapter 11 bankruptcy during the last five years.
- C. Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience.
- D. Installer's Field Supervision: Maintain a full-time project manager and a Foreman on job site during all phases of roofing work while roofing work is in progress.
- E. Product Certification: Provide manufacturer's certification that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- F. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

#### 1.7 PRE-INSTALLATION MEETINGS

- A. Convene minimum two weeks prior to commencing Work of this section.



- B. Review installation procedures and coordination required with related Work.
- C. Inspect and make notes of job conditions prior to installation:
  - 1. Record minutes of the conference and provide copies to all parties present.
  - 2. Identify all outstanding issues in writing designating the responsible party for follow-up action and the timetable for completion.
  - 3. Installation of roofing system shall not begin until all outstanding issues are resolved to the satisfaction of the Owner.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.
- C. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface except store KEE-Stone FB 60 rolls flat on a clean flat surface. No wet or damaged materials will be used in the application.
- D. Store at room temperature wherever possible, until immediately prior to installing the roll. During winter, store materials in a heated location with a 50 degree F (10 degree C) minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.
- E. Avoid stockpiling of materials on roofs without first obtaining acceptance from the Owner/Engineer.
- F. Adhesive storage shall be between the range of above 50 degree F (10 degree C) and below 80 degree F (27 degree C). Area of storage shall be constructed for flammable storage.

#### 1.9 COORDINATION

- A. Coordinate Work with installing associated metal flashings as work of this section proceeds.

#### 1.10 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

#### 1.11 WARRANTY

- A. Upon completion of the work, provide the Manufacturer's written and signed Edge-To-Edge NDL System Warranty, warranting that, if a leak develops in the roof during the term of this warranty, due either to defective material or defective workmanship by the installer, the manufacturer shall provide the Owner, at the Manufacturer's expense, with the labor and material necessary to return the defective area to a watertight condition including metal components.
  - 1. Warranty Period:
    - a. 30 years from date of acceptance.
- B. Installer is to guarantee all work against defects in materials and workmanship for a period indicated following final acceptance of the Work.
  - 1. Warranty Period:
    - a. 5 years from date of acceptance.

### PART 2 PRODUCTS

## 2.1 MANUFACTURERS

- A. Requests for substitutions will be considered in accordance with provisions of Section 01600.
- B. The Products specified are intended and the Standard of Quality for the products required for this project. If other products are proposed the bidder must disclose in the bid the manufacturer and the products that they intend to use on the Project. If no manufacturer and products are listed, the bid may be accepted only with the use of products specified.
  - 1. Bidder will not be allowed to change materials after the bid opening date.
  - 2. If alternate products are included in the bid, the products must be equal to or exceed the products specified. Supporting technical data shall be submitted to the Owner for approval prior to acceptance.
  - 3. In making a request for substitution, the Bidder/Roofing Contractor represents that it has:
    - a. Personally investigated the proposed product or method, and determined that it is equal or superior in all respects to that specified.
    - b. Will provide the same guarantee for substitution as for the product and method specified.
    - c. Will coordinate installation of accepted substitution in work, making such changes as may be required for work to be completed in all respects.
    - d. Will waive all claims for additional cost related to substitution, which consequently become apparent.
    - e. Cost data is complete and includes all related cost under his/her contract or other contracts, which may be affected by the substitution.
    - f. Will reimburse the Owner for all redesign for accommodation of the substitution.
  - 4. Owner reserves the right to be the final authority on the acceptance or rejection of any or all bids, proposed alternate roofing systems or materials that has met ALL specified requirement criteria.
  - 5. Failure to submit substitution package, or any portion thereof requested, will result in immediate disqualification and consideration for that particular contractors request for manufacturer substitution.

## 2.2 HOT APPLIED 2-PLY THERMOPLASTIC HYBRID ROOF SYSTEM -

- A. Base (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive:
  - 1. ASTM 6163 Type III
- B. Thermoplastic Cap (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive (2).
  - 1. ASTM 6754
- C. Interply Adhesive: (1)
  - 1. Hot Bitumen ASTM D 36
- D. Interply Adhesive (2):
  - 1. Hot Bitumen ASTM D 36
- E. Flashing Base Ply: One ply bonded to the prepared substrate Flashing Ply Adhesive (1):
  - 1. ASTM 6163 Type III
- F. Flashing Cap (Ply) Sheet: One ply bonded to the prepared substrate with Flashing Ply Adhesive ( 1 ):
  - 1. ASTM 6754
- G. Flashing Ply Adhesive ( 1 ):
  - 1. Hot Bitumen ASTM D 36
- H. Flashing Ply Adhesive (2):
  - 1. Hot Bitumen ASTM D 36

## 2.3 ACCESSORIES:

- A. Roof Insulation: In accordance with Section 07220.
- B. Roof Insulation: Provide USG Securrock for proper adhesion of the self-adhered base sheet in accordance with Section 07220.
- C. Urethane Sealant Hybrid - One part, non-sag sealant as approved and furnished by the membrane manufacturer for moving joints.
  - 1. Tensile Strength, ASTM D 412: 250 psi
  - 2. Elongation, ASTM D 412: 450%
  - 3. Hardness, Shore A ASTM C 920: 35
  - 4. Adhesion-in-Peel, ASTM C 92: 30 pli
- D. Sealant -Single component, 100% solids structural adhesive as furnished and recommended by the membrane manufacturer.
  - 1. Elongation, ASTM D 412: 300%
  - 2. Hardness, Shore A, ASTM C 920: 50
  - 3. Shear Strength, ASTM D 1002: 300 psi
- E. Non-Shrink all weather fast setting chemical action concrete material to fill pitch pans.
  - 1. Flexural Strength, ASTM C 78: (modified) 7 days 1100psi
  - 2. High Strength, ASTM C 109: (modified) 24 days 8400lbs (3810kg)
- F. Pitch Pocket Sealer -Two part, 100% solids, self-leveling, polyurethane sealant for filling pitch pans as recommended and furnished by the membrane manufacturer.
  - 1. Durometer, ASTM D 2240: 40-50 Shore
  - 2. Elongation, ASTM D 412: 250%
  - 3. Tensile Strength, ASTM D 412: 200 @ 100 mil
- G. Glass Fiber Cant – Roxul Non-Combustible: Continuous triangular cross Section made of inorganic fibrous glass used as a cant strip as recommended and furnished by the membrane manufacturer.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Inspect and approve the deck condition, slopes and fastener backing if applicable, parapet walls, expansion joints, roof drains, stack vents, vent outlets, nailers and surfaces and elements.
- C. Verify that work penetrating the roof deck, or which may otherwise affect the roofing, has been properly completed.
- D. If substrate preparation and other conditions are the responsibility of another installer, notify Owner of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. General: Clean surfaces thoroughly prior to installation.
  - 1. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
  - 2. Fill substrate surface voids that are greater than 1/4 inch wide with an acceptable fill material.
  - 3. Roof surface to receive roofing system shall be smooth, clean, free from loose gravel, dirt and debris, dry and structurally sound.
  - 4. Wherever necessary, all surfaces to receive roofing materials shall be power broom and vacuumed to remove debris and loose matter prior to starting work.

5. Do not apply roofing during inclement weather. Do not apply roofing membrane to damp, frozen, dirty, or dusty surfaces.
  6. Fasteners and plates for fastening components mechanically to the substrate shall provide a minimum pull-out capacity of 300 lbs. (136 k) per fastener. Base or ply sheets attached with cap nails require a minimum pullout capacity of 40 lb. per nail.
  7. Prime decks where required, in accordance with requirements and recommendations of the primer and deck manufacturer.
- B. Metal Deck: Metal deck shall be installed as specified in Section
1. Fastening of the deck should comply with the anticipated live and dead loads pertaining to the building as well as applicable Code.
  2. Steel decks shall be minimum 22-gauge factory galvanized or zinc alloy coated for protection against corrosion.
  3. Suitable insulation shall be mechanically attached as recommended by the insulation manufacturer.
  4. Decks shall comply with the gauge and span requirements in the current Factory Mutual FM Approval Guide and be installed in accordance with Loss Prevention Data Sheet 1-28 or specific FM approval.
  5. When re-roofing over steel decks, surface corrosion shall be removed, and repairs to severely corroded areas made. Loose or inadequately secured decking shall be fastened, and irreparable or otherwise defective decking shall be replaced.
- C. Precast concrete:
1. Decks shall be clean, dry, fully cured and free of flaws and attached securely to the supporting structure as recommended by the deck manufacturer.
  2. All joints shall be caulked or grouted.
  3. Concrete surfaces to receive roofing shall be fully primed at the rate of 1 gallon per 100 sq. ft.
  4. When applying roofing or insulation directly to the deck with asphalt, prime with asphalt/concrete primer, ASTM D41, at a rate of 1 gal/square (.4 L/m<sup>2</sup>) and allow the primer to dry prior to the application of the roofing system. Hold back bitumen at the joints approximately 4 inches (102 mm) to prevent bitumen drippage.
  5. Deck joints shall be stripped in with a 12 inch (305 mm) wide strip of modified membrane unadhered a minimum of 2 inches (51 mm) immediately on either side of the joint.

### 3.3 INSTALLATION - GENERAL

- A. Install modified bitumen membranes and flashings in accordance with manufacturer's instructions and with the recommendations provided by the National Roofing Contractors Association's Roofing & Waterproofing Manual, the Asphalt Roofing Manufacturers Association, and applicable codes.
- B. General: Avoid installation of modified bitumen membranes at temperatures lower than 40-45 degrees F. When work at such temperatures unavoidable use the following precautions:
1. Take extra care during cold weather installation and when ambient temperatures are affected by wind or humidity, to ensure adequate bonding is achieved between the surfaces to be joined. Use extra care at material seam welds and where adhesion of the applied product to the appropriately prepared substrate as the substrate can be affected by such temperature constraints as well.
  2. Unrolling of cold materials, under low ambient conditions must be avoided to prevent the likelihood of unnecessary stress cracking. Rolls must be at least 40 degrees F at the time of application. If the membrane roll becomes stiff or difficult to install, it must be replaced with roll from a heated storage area.
- C. Commence installation of the roofing system at the lowest point of the roof (or roof area), working up the slope toward the highest point. Lap sheets shingle fashion so as to constantly shed water
- D. All slopes greater than 2:12 require back-nailing to prevent slippage of the ply sheets. Use

ring or spiral-shank 1 inch cap nails, or screws and plates at a rate of 1 fastener per ply (including the membrane) at each insulation stop. Place insulation stops at 16 ft o.c. for slopes less than 3:12 and 4 feet o.c. for slopes greater than 3:12. On non-insulated systems, nail each ply directly into the deck at the rate specified above. When slope exceeds 2:12, install all plies parallel to the slope (strapping) to facilitate backnailing. Install 4 additional fasteners at the upper edge of the membrane when strapping the plies.

### 3.4 INSTALLATION HOT APPLIED ROOF SYSTEM

- A. Base/Felt Ply(s): Install base sheet or felt plies in twenty five (25) lbs (11.3kg) per square of bitumen shingled uniformly to achieve one or more plies over the entire prepared substrate. Shingle in direction of slope of roof to shed water on each area of roof. Do not step on base rolls until asphalt has cooled, fish mouths should be cut and patched.
1. Lap ply sheet ends 8 inches (203 mm). Stagger end laps 2 inches (304mm) minimum.
  2. Install base flashing ply to all perimeter and projection details after membrane application.
  3. Extend plies 2 inches beyond top edges of cants at wall and projection bases.
  4. Install base flashing ply to all perimeter and projection details.
  5. Allow the one ply of base sheet to cure at least 30 minutes before installing the modified membrane. However, the modified membrane must be installed the same day as the base plies.
- B. Thermoplastic Cap Ply: Allow plies to relax before installing. Install in interply adhesive applied at the rate required by the manufacturer. Shingle sheets uniformly over the prepared substrate to achieve the number of plies specified. Shingle in proper direction to shed water on each large area of roofing.
1. All field seams exceeding 10 feet in length shall be welded with an approved automatic welder.
  2. All field seams must be clean and dry prior to initiating any field welding. Remove foreign materials from the seams (dirt, oils, etc.) with acetone or authorized alternative. Use CLEAN WHITE COTTON cloths and allow approximately five minutes for solvents to dissipate before initiating the automatic welder. Do not use denim or synthetic rags for cleaning.
  3. Contaminated areas within a membrane seam will inhibit proper welding and will require a membrane patch or strip.
  4. All welding shall be performed only by qualified personnel to ensure the quality and continuity of the weld. The lap or seam area of the membrane may be intermittently tack welded to hold the membrane in place.
  5. The back interior edge of the membrane shall be welded first, with a thin, continuous weld to concentrate heat along the exterior edge of the lap during the final welding pass.
  6. Follow local code requirements for electric supply, grounding and surge protection. The use of a dedicated, portable generator is highly recommended to ensure a consistent electrical supply, without fluctuations that can interfere with weld consistency.
  7. Properly welded seams shall utilize a 1.5 inch wide nozzle, to create a homogeneous weld, a minimum of 1.5 inches in width
  8. Use care to eliminate adhesive from getting on the side laps of the thermoplastic membrane.
  9. Install subsequent rolls of thermoplastic membrane as above with a minimum of 4 inch (101 mm) side laps and butted together end laps and cover with a heat welded utility strip. Stagger end laps.
  10. Apply membrane in the same direction as the previous layers but stagger the laps so they do not coincide with the laps of the base layers.
  11. Extend membrane 2 inches (50 mm) beyond top edge of all cants in the specified adhesive at the specified application rate.
- C. Fibrous Cant Strips: Provide non-combustible perlite or glass fiber cant strips at all wall/curb detail treatments where angle changes are greater than 45 degrees. Cant may be set in approved cold adhesives, hot asphalt or mechanically attached with approved plates and

fasteners.

- D. Wood Blocking, Nailers and Cant Strips: Provide wood blocking, nailers and cant strips as specified in Section 06114.
  - 1. Provide nailers at all roof perimeters and penetrations for fastening membrane flashings and sheet metal components.
  - 2. Wood nailers should match the height of any insulation, providing a smooth and even transition between flashing and insulation areas.
  - 3. Nailer lengths should be spaced with a minimum 1/8 inch gap for expansion and contraction between each length or change of direction.
  - 4. Nailers and flashings should be fastened in accordance with Factory Mutual "Loss Prevention Data Sheet 1- 49, Perimeter Flashing" and be designed to be capable of resisting a minimum force of 200 lbs/lineal foot in any direction.
- E. Metal Work: Provide metal flashings, counter flashings, parapet coping caps and thru-wall flashings as specified in Section 07620 or Section 07710. Install in accordance with the SMACNA "Architectural Sheet Metal Manual" or the NRCA Roofing Waterproofing manual.
- F. Termination Bar: Provide a metal termination bar or approved top edge securement at the terminus of all flashing sheets at walls and curbs. Fasten the bar a minimum of 8 inches (203 mm) o/c to achieve constant compression. Provide suitable, sealant at the top edge if required.
- G. Flashing Base Ply: Install flashing sheets by the same application method used for the base ply.
  - 1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
  - 2. Prepare all walls, penetrations, expansion joints and surfaces to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
  - 3. Adhere to the underlying base flashing ply with specified hot material unless otherwise noted in these specifications. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
  - 4. Solidly adhere the entire sheet of flashing membrane to the substrate.
  - 5. Seal all vertical laps of flashing membrane with a three-course application of trowel-grade mastic and mesh.
  - 6. Coordinate counter flashing, cap flashings, expansion joints, and similar work with modified bitumen roofing work as specified.
  - 7. Coordinate roof accessories, miscellaneous sheet metal accessory items, including piping vents and other devices with the roofing system work.
- H. Flashing Cap Ply: Install flashing cap sheets by the same application method used for the cap ply.
  - 1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
  - 2. Prepare all walls, penetrations, expansion joints and where shown on the Drawings to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
  - 3. Adhere to the underlying base flashing ply with specified flashing ply adhesive unless otherwise specified. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
  - 4. Coordinate counter flashing, cap flashings, expansion joints and similar work with modified bitumen roofing work as specified.
  - 5. Coordinate roof accessories, miscellaneous sheet metal accessory items with the roofing system work.
  - 6. All stripping shall be installed prior to flashing cap sheet installation.
  - 7. Heat and scrape granules when welding or adhering at cut areas and seams to granular surfaces at all flashings.
  - 8. Secure the top edge of the flashing sheet using a termination bar only when the wall

surface above is waterproofed, or nailed 4 inches on center and covered with an acceptable counter flashing.

- I. Roof Walkways: Provide walkways to all electric vents and mechanical units.

### 3.5 CLEANING

- A. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles and other debris resulting from these operations.
- B. Remove asphalt markings from finished surfaces.
- C. Repair or replace defaced or disfigured finishes caused by Work of this section.

### 3.6 PROTECTION

- A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.
- B. Protect exposed surfaces of finished walls with tarps to prevent damage.
- C. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.
- D. In addition to the plywood listed above, an underlayment of minimum 1/2 inch (13 mm) recover board is required on new roofing.
- E. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

### 3.7 FIELD QUALITY CONTROL

- A. Inspection: Provide manufacturer's field observations at start-up and at intervals of approximately 30 percent, 60 percent and 90 percent completion. Provide a final inspection upon completion of the Work.
  - 1. Warranty shall be issued upon manufacturer's acceptance of the installation.
  - 2. Field observations shall be performed by a Representative employed full-time by the manufacturer and whose primary job description is to assist, inspect and approve membrane installations for the manufacturer.
  - 3. Provide observation reports from the Sales Representative indicating procedures followed, weather conditions and any discrepancies found during inspection.
  - 4. Provide a final report from the Sales Representative, certifying that the roofing system has been satisfactorily installed according to the project specifications, approved details and good general roofing practice.

### 3.8 SCHEDULES

- A. Base (Ply) Sheet:
  - 1. 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet reinforced with a dual fiberglass reinforced scrim, performance requirements according to ASTM D 5147.
    - a. Tensile Strength, ASTM D 5147
      - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 225 lbf/in XD 225 lbf/in
      - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 39.0 kN/m XD 39 kN/m
    - b. Tear Strength, ASTM D 5147
      - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 300 lbf XD 300 lbf
      - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 1335 N XD 1335 N
    - c. Elongation at Maximum Tensile, ASTM D 5147
      - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 7% XD 7%
      - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 7% XD 7%
    - d. Low Temperature Flexibility, ASTM D 5147, Passes -30 deg. F (-34.4 deg. C)

- B. Thermoplastic/Modified Cap (Ply) Sheet:
1. Minimum of 50 mil thermoplastic, ketone ethylene ester (KEE) roofing membrane with polyester scrim. ASTM D6754
    - a. Breaking Strength, ASTM D 751, Proc. B, strip
      - 1) 375 lbf. (1,668 N)
    - b. Tear Strength ASTM D 751
      - 1) 120 lbf. min. (534 N)
    - c. Elongation at Break (%), ASTM D 751, Proc. B, Strip
      - 1) 40.0%
- C. Interply Adhesive:
1. Hot Bitumen, premium SEBS polymer modified asphalt based adhesive having the following characteristics:
    - a. Softening Point 203 deg. F - 221 deg. F
    - b. Flash Point 525 deg. F
    - c. Penetration @ 77 deg. F 50-70 units
    - d. Ductility @ 77 deg. F 50 cm
    - e. Elongation 1100%
    - f. Flexibility (10 Mandrel) Pass 0 deg. F
- D. Flashing Base Ply:
1. 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet reinforced with a dual fiberglass reinforced scrim, performance requirements according to ASTM D 5147.
    - a. Tensile Strength, ASTM D 5147
      - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 225 lbf/in XD 225 lbf/in
      - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 39.0 kN/m XD 39 kN/m
    - b. Tear Strength, ASTM D 5147
      - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 300 lbf XD 300 lbf
      - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 1335 N XD 1335 N
    - c. Elongation at Maximum Tensile, ASTM D 5147
      - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 7% XD 7%
      - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 7% XD 7%
    - d. Low Temperature Flexibility, ASTM D 5147:
      - 1) Passes -30 deg. F (-34.4 deg. C)
- E. Flashing Ply Adhesive:
1. Hot Bitumen, premium SEBS polymer modified asphalt based adhesive having the following characteristics:
    - a. Softening Point 203 deg. F - 221 deg. F
    - b. Flash Point 525 deg. F
    - c. Penetration @ 77 deg. F 50-70 units
    - d. Ductility @ 77 deg. F 50 cm
    - e. Elongation 1100%
    - f. Flexibility (10 Mandrel) Pass 0 deg. F
- F. Surfacing:
1. Flashing Cap (Ply) Sheet:
    - a. 60 mil thermoplastic, ketone ethylene ester (KEE) roofing membrane with polyester scrim. ASTM D 6754.
      - 1) Breaking Strength, ASTM D 751, Proc. B, strip
        - a) 378 lbf
      - 2) Tear Strength ASTM D 751
        - a) 120 lbf. minimum.
      - 3) Elongation at Break (%), ASTM D 751, Proc. B, Strip
        - a) 40.0%

END OF SECTION