PART A -
Instructions and General Terms and Conditions
AEPA SOLICITATION #021

Notice to Respondents

Solicitation offers will be received by the Association of Educational Purchasing Agencies (AEPA) on behalf of its Member Agencies until:

1:30 p.m. ET, Wednesday, September 9, 2020

For Solicitation: 021–A Athletic Facility Lighting; 021-B Hardwood & Synthetic Sports Flooring; 021-C Digital Multi-Function Devices, Printers, Document Lifecycle Accessories and Services; 021-D Roofing & Building Envelope Services; 021-E HVAC and Mechanical Products & Solutions; 021-F Disaster Recovery Services; 021-G Security Solutions.

Each package consists of multiple parts:

- **Part A – Terms and Conditions**
- **Part B – Technical Specifications**
- **Part C – Member Agency (State) Terms and Conditions**
- **Part D – Questionnaire**
- **Part E – Signature Forms**
- **Part F – Discount & Pricing Workbook**

All offers shall be submitted online via the Public Purchase website by the due date and time listed above. Note that Respondents must be able to provide their proposed products and services in up to 29 states including California, Colorado, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Jersey, New Mexico, North Dakota, Ohio, Oregon, Pennsylvania, South Carolina, Texas, Virginia, Washington, West Virginia, Wisconsin and Wyoming.

AEPA solicitation documents can be downloaded after registering, at no cost, on Public Purchase at www.publicpurchase.com. AEPA and/or the respective Member Agencies reserve the right to reject any or all offers in whole or in part; to waive any formalities or irregularities in any offers, and to accept the offers, which in its discretion, within state law, are for the best interest of any of the AEPA Member Agencies and/or their Participating Entities. Solicitations will be opened, and an opening record will be posted to Public Purchase. Solicitations will be opened online at 1:30 PM ET on September 9, 2020.

Bid & Contract Timeline:

July 20, 2020	Notification will also be posted to the AEPA website, www.aepacoop.org.
August 12, 2020	Pre-Solicitation Conference Call (optional)
August 24, 2020	Deadline for questions from Respondents
September 9, 2020 @ 1:30 p.m., est.	**Deadline for Submittals and Reading via Public Purchase**
November 13, 2020	Contract Recommendations posted on Public Purchase and the AEPA website, www.aepacoop.org
November 30 – December 2, 2020	AEPA Approval of Offers
December 9, 2019	Vendor Partners submit required documentation to AEPA Agencies
No later than February 28, 2021	Initial contract term – See Term of Contract and Extensions in General Terms & Conditions
March 1, 2021 - 2025	Annual contract renewal dates subject to approval by AEPA

Part A – Table of Contents

I. About AEPA

Welcome to The Association of Educational Purchasing Agencies (AEPA) annual solicitation. AEPA is a unique school procurement consortium established in 2000 and incorporated in 2007 under the state laws of Nevada. We are a consortium of non-profit public agencies representing twenty-nine (29) states. We joined to issue simultaneous Invitations for Bids (IFB), or Request for Proposals (RFP), generating sales for vendor partners in all fifty (50) states. AEPA's mission is to cooperatively serve our members through a continuous effort to explore and solve present and future purchasing needs. Our goal is to secure multi-state volume purchasing contracts with benefits for our public members that are measurable, cost-effective, and exceed members' expectations for customer service and value. AEPA is committed to accomplishing this mission lawfully and ethically, using leading-edge technology and contemporary business practices.

The advantage for vendors to work with AEPA is that you respond to one bid or proposal that is legally performed across as many as 29 states, which have the potential to sell nationwide. You are working with up to 29 agencies with a long and trusted history with their public membership. Through our partnerships, AEPA vendors have access to thousands of public agencies across the country. We are a multi-million-dollar procurement group through our current awarded vendors and are growing.

AEPA designates one Member Agency per state that is operating legally under the rules and regulations of that state. Any additional agencies that wish to participate will negotiate with the authorized Member Agency and participate through them in a manner in which they mutually agree is not in conflict with AEPA procedures. The Member Agency will be the only agency allowed to represent that state at AEPA and will be the only communication link between AEPA and that state.

Each Member Agency, along with the awarded Vendor Partner, represents, supports, and promotes the AEPA contracts within their respective state. While the consortium was initially created to support

educational entities, the Member Agency for each state determines which public entities (higher educational institutions, cities, counties, townships, states, etc.) can utilize the competitively solicited contracts (see the Summary of State Participation by Solicitation Category Table). Participating entities may include Public and Private School Districts, Educational Service Agencies, Intermediate School Districts, Higher Education Institutions, Federal Agencies, State Agencies, Local Public Bodies, and Nonprofit Non-Public Corporations, Organizations, other entities contracted to conduct business on behalf of a participating entity provided they are required to follow member state and local procurement regulations, etc. that have authorizations to utilize the AEPA Member Agencies' Awarded Contracts.

AEPA has an elected President, Vice President, Secretary, and Treasurer. Operations are overseen by the Executive Director. The AEPA Board representing 29 states meets twice per year and operates otherwise through a sophisticated committee structure.

AEPA Member Agency Information

State	Agency Name	Contact	Email	Students
California	Monterey County Office of Education d/b/a CalSAVE	Ted Witt	twitt@epylon.com	6,000,000
Colorado	Colorado BOCES Association	John Tillman	jtillman@my.amigo.net	889,000
Connecticut	Capitol Region Education Council (CREC)	Cara Hart	chart@crec.org	538,000
Florida	Panhandle Area Education Consortium	Larche Hardy	larche.hardy@paec.org	2,700,000
Georgia	Cooperative Purchasing Agency	Kevin Benson	kbenson@cpa4schools.com	1,600,000
Indiana	Wilson Education Center	Pam Clover	pclover@wesc.k12.in.us	1,046,026
Illinois	Illinois Learning Technology Purchase Program	Hope Hardin-Borbely	hhardinborbely@iltpp.org	2,001,548
Iowa	AEA Purchasing	Joni Puffett	joni@aeapurchasing.org	510,010
Kansas	Southeast Kansas Education Service Center	Tina Smith	tina.smith@greenbush.org	468,510
Kentucky	Green River Regional Educational Cooperative	Ann Burden	ann.burden@grrec.org	675,000
Massachusetts	The Education Cooperative	Joan Preble	jpreble@tec-coop.org	955,739
Michigan	Oakland Schools	Anna Marie Hollander	AnnaMarie.Hollander@oakland.k12.mi.us	1,550,802
Minnesota	Cooperative Purchasing Connection	Jeremy Kovash	jkovash@lcsc.org	842,932
Missouri	EducationPlus	Steve Griggs	sgriggs@edplus.org	885,204
Montana	Montana Cooperative Service	Dave Puyear	dpuyear@mrea-mt.org	144,129
Nebraska	Nebraska ESU Cooperative Purchasing	Craig Peterson	Craig.peterson@esucc.org	300,000
New Jersey	Middlesex Regional Educational Services Commission	Pat Moran	pmoran@mresc.k12.nj.us	1,369,000
New Mexico	Cooperative Educational Services	Dotty McKinney	dotty@ces.org	338,307
North Dakota	North Dakota Educators Service Cooperative	Jane Eastes	jeastes@lcsc.org	106,863
Ohio	Ohio Council of Educational Purchasing Consortium	Tamra Hurst	tamra.hurst@apps.sparcc.org	1,700,000
Oregon	Intermountain ESD	Rob Naughton	rob.naughton@imesd.k12.or.us	570,857
Pennsylvania	Central Susquehanna Intermediate Unit d/b/a Keystone Purchasing Network	Jeff Kimball	jkimball@csiu.org	5,700,000
South Carolina	Carolinas Alliance 4 Innovation (CA4I)	Fred Payne	fred.payne@ca4i.org	787.000
Texas	Region 16 Education Service Center d/b/a TexBuy	Andrew Pickens	andrew.pickens@esc16.net	5,232,065
Virginia	Fairfax County Public Schools	Michelle Pratt	MRPratt@fcps.edu	1,249,000
Washington	King County Directors Association	Dave Mahalko	dmahalko@kcda.org	1,000,000
West Virginia	Mountain State Educational Services Cooperative	Jan Hanlon	jhanlon@k12.wv.us	299,899

Wisconsin	Cooperative Educational Service Agency (CESA) #2	Jane Wray	jane.wray@cesa2.org	873,000
Wyoming	Northeast Wyoming Board of Cooperative Educational Services	Nita Werner	nwerner@newboces.com	91,000

II. Solicitation Procedures

A. Issuing Agency

The great benefit to the Vendor is that one response may be prepared for approval by AEPA and awarded by multiple AEPA Member Agencies and utilized by their Participating Entities located throughout many states. Solicitations may be issued as an IFB or an RFP depending on the category of goods/services being solicited. Respondents to a solicitation will submit their response in the required formats (PDF, Word, Excel) of all files requested along with complete catalogs via Public Purchase, a free online bidding platform, by the published due date and time. Respondents selected in response to this solicitation have the potential to provide products and services to local education agencies serving over 36,000,000 (excludes non-represented AEPA states) students, with additional local government agencies as permitted by state law.

Each AEPA Member Agency will individually publish notice of the solicitation. Respondents will submit responses online, electronically via Public Purchase (www.publicpurchase.com). Instructions on registering for AEPA solicitations on Public Purchase can be found on the AEPA website, www.aepacoop.org. Responses will be evaluated by solicitation category committees comprised of AEPA Member Agencies representatives who have indicated they will participate in the category of products and services being solicited, and after AEPA approval, individual AEPA Member Agencies may award contracts to the AEPA Approved Vendor Partners or reject their offers.

The procurement activities of AEPA are limited to document preparation, distribution of the solicitation, initial evaluation, and recommendation for possible approval to AEPA Member Agencies. AEPA consists of agency officials who have agreed to assist one another in meeting the public purchasing needs of local school districts and other political subdivisions.

Contracts awarded through cooperative purchasing must meet the procurement laws of the states of each AEPA Member Agency. When these laws are satisfied, an individual entity using these contracts is deemed in compliance with competitive procurement regulations. As allowed by specific state statutes, they can issue purchase orders for any amount without the necessity to prepare their own solicitation, Request for Proposal (RFP), or Request for Quotations (RFQ). This saves the entity time and allows for economical and efficient purchasing.

AEPA requires that Respondents only respond if they can offer prices equal to or better than what they ordinarily offer to individual entities or cooperatives with equal or lesser volume. State laws that permit or encourage cooperative purchasing contracts do so in the belief that it saves the participants both time and money. Time is saved by having access to volume discounted contracts publicly solicited and being able to purchase what is needed without having to wade through the solicitation process (write solicitation, advertise the solicitation, open each response, evaluate and select). Money is saved in procurement cost and lower prices will be the result of volume purchasing. Therefore, a contract issued by a cooperative can be used by hundreds of separate political units; but if it has the same or higher prices than what a single agency or state contract can get through its own solicitation, a cooperatively solicited contract may not be attractive to these members. **We request that Respondents respond with advantageous pricing and package so that together we can attract members to prefer the cooperatively awarded contract.**

The AEPA policy for membership permits new agencies to become AEPA Member Agencies upon approval of existing members. If additional Agencies are added, they and their members

may procure from existing contracts upon approval of the awarded Vendor Partners and in accordance with their state laws.

B. **Questions**

All questions from Respondents must be submitted online through Public Purchase, AEPA will not accept questions in any other format during the solicitation process. All questions received during the solicitation process will be available via Public Purchase. All Respondents will be automatically notified through email when AEPA responds to a question asked by a potential respondent. It is the Respondent's responsibility to check Public Purchase for any questions and answers before the deadline. Questions received after the question deadline date will not be answered.

Should AEPA issue addenda during the solicitation process, all Respondents will be automatically notified through email of the released addenda. AEPA is not responsible for Respondents not acknowledging the issued addenda and not submitting a response according to those changes.

Questions regarding this solicitation after Opening, but before the approval of the contract, should be submitted to questions@aepacoop.org.

Questions regarding this solicitation after Notification of Approval should be submitted to bid-committee@aepacoop.org.

C. **Respondent Qualifications**

An essential part of the solicitation process is an evaluation to qualify the company being considered. All solicitations must contain answers, responses, and/or documentation to the information requested in the documents. Any Respondent failing to provide the required information/ documentation may be considered non-responsive, this includes submitting a response not in the proper format.

Respondents must demonstrate their ability, capacity, and available resources to provide the proposed products and services to 90% of the AEPA Member Agencies indicating an interest in participating in the categories being solicited unless otherwise noted in Part B – Technical Specifications of the category being solicited. The Respondents are required to communicate and demonstrate within their response they have extensive knowledge, background, and at least five (5) years of experience with manufacturing, obtaining, delivering, installing, maintaining, and/or supporting the product lines of products, equipment, services or software offered. AEPA and/or its Member Agencies reserve the right to accept or reject newly formed companies or companies failing to demonstrate their abilities or capacity solely based on information provided in the solicitation response and/or its own investigation of the company.

D. **Bid/Proposal Security**

If required, bids or proposals shall be accompanied by a satisfactory security bond. **This will vary by the goods/services requested and will be noted in Part B, Technical Specifications for that category.**

If a security bond is required, a hard copy of the security must be in the actual possession of AEPA at Lakes Country Service Cooperative, ATTN: Purchasing Dept, 1001 E Mt Faith, Fergus Falls, MN 56537, on or before, the exact due date and time. Original copies of the security must be submitted in a sealed envelope properly addressed to the Association of Educational Purchasing Agencies, with the Solicitation Number, Solicitation Category, and Respondent's name and address clearly indicated on the envelope or box. Security Bonds (when required) received late will not be opened and will be deemed non-responsive.

A Respondent must also include a PDF copy of the security with their response on Public Purchase. If a Respondent fails to submit a copy of the security via Public Purchase and/or fails to submit the

security by the due date and time, its response shall be deemed non-responsive and will not be considered.

An acceptable bid/proposal security will have the principal being the Respondent and the Association of Educational Purchasing Agencies listed as the Agency of Record. The Security may be a one-time bond underwritten by a surety company licensed to issue bonds in the state of Nevada and said surety to be approved in federal circular 570 as published by the United States treasury department or the equivalent in cash or an irrevocable letter of credit from a FDIC financial institution. The security bond shall remain in force for one hundred twenty (120) days of the solicitation opening.

E. **Submittal**

1. **Preparation of the Response**
    a. The solicitation is published in multiple parts.
        i. Part A contains the general terms and conditions that apply to all solicitations.
        ii. Part B is the technical specifications or proposal request for the individual commodity or service requested.
        iii. Part C includes specific state terms and conditions. This is where you will find information about each AEPA state member and any specific procurement rules of each state.
        iv. Part D, E, and F are to be filled out in their entirety and submitted online via Public Purchase in their required formats with the Respondent's offer. Some categories may contain additional Parts or Forms. All Forms must be uploaded before the published solicitation due date and time of opening.
    b. All responses must be on the forms provided by AEPA for each solicitation found in Public Purchase unless otherwise noted. Respondents will submit all documents, <u>in their required formats</u>, online via Public Purchase by the due date and time of the solicitation.
    c. Forms requiring signatures shall be submitted by the person authorized to sign the bid or proposal response. Failure to properly sign the solicitation documents will result in the offer being deemed non-responsive.
    d. In case of an error in extension of prices in the solicitation, unit prices shall govern.
    e. Periods of time stated as a number of days shall be in calendar days, not business days.
    f. It is the responsibility of all Respondents to examine the entire solicitation package, to seek clarification of any item or requirement that may not be clear, and to check all responses for accuracy before submitting an offer. Negligence in preparing an offer confers no right of withdrawal after due time and date.
    g. The Respondents' ability to follow the preparation instructions set forth in this solicitation will also be considered to be an indicator of the Respondents' ability to follow instructions should they receive an award as a result of this solicitation. Any contract between the AEPA Member Agency and a Respondent requires the delivery of information and data. The quality of organization and writing reflected in the offer will be considered to be an indication of the quality of organization and writing which would be prevalent if a contract was awarded. As a result, the offer will be evaluated as a sample of data submission.
2. **Document Development:** Forms for this solicitation are published in Public Purchase, in Word, Excel, and PDF formats. Respondents may download the documents once they are registered with AEPA on Public Purchase. All documents must be titled properly and submitted in their required format as noted in the Solicitation Checklist. Respondents must scan and upload all documents to Public Purchase following the Solicitation Checklist, along with any additional documents or files other than those listed below that may be requested and/or related to the solicitation.
    a. **Part C – Member Agency (State) Terms and Conditions:** Some states require additional documentation and signature forms. Review Part C and submit the required

state documents with your offer. Submit all state-specific forms as one (1) form in PDF format.

b. **Part D – Questionnaire:** Complete the form provided. The questionnaire seeks information about the Respondent's pricing structure, service areas, financial status, past performance, and commerce processes. The Company Information form provides background information on the Respondent's company. Submit the form as one (1) individual form.

AEPA requires reports that describe the financial soundness of your organization. You will be asked to include a third-party report or reports that demonstrate your firm's strength. Accepted financial reports include balance sheets and Profit & Loss statements for the past three years, a Letter of Credit or Line of Credit from a bank or lending institution indicating the line of credit limit and the average outstanding balance, Dun & Bradstreet reports, a complete Annual Financial Report (for publicly traded companies). Reports must be for the three years prior to this solicitation. Scan the report(s) into a PDF document and title as per the instructions. **For confidentiality, Respondents may choose to send the report(s) by email directly to the AEPA Executive Director, George Wilson, at georgewilson.aepa@outlook.com. The reports will be held through the end of the protest period for the solicitation after which they will be destroyed. The pdf report(s)must be received by the AEPA Executive Director before the due date and time of the solicitation opening**.

c. **Part E – Signature Forms**: Complete the forms provided. The signature form includes multiple areas where signatures are required. Submit the form as one (1) individual form in PDF format.

d. **Part F – Discount & Pricing Schedules Workbook:** Complete the Excel workbook provided. Title the Excel document as per the instructions in Document Development above. Be sure to complete the required tabs as outlined in Part F.

- **Warranties, Additional Services:** In response to Part F, the Respondent may be asked to provide a price schedule for warranties, or additional services, if applicable. This document is created by the Respondent (it is not provided by AEPA) and should be presented in an Excel workbook and titled as per the instructions in Document Development above.
- **Additional Discounts:** In response to Part F, the Respondent may select to offer additional discounts/bonuses to AEPA members based on a dollar volume, sizes of orders or other criteria, and must state the formula for arriving at these discounts. This document is created by the Respondent (it is not provided by AEPA) and should be presented in an Excel workbook and titled as per the instructions in Document Development above.

- **Price Lists and/or Catalogs:** For catalog bids, PDFs of the Respondent's most recent published catalog(s) or price lists must be included. Each PDF document must be titled as per the instructions.

3. **Solicitation Transmittal**

a. It is the responsibility of the Respondent to be certain that its submittal has been uploaded in its entirety to Public Purchase, on or prior to the exact published due date and time.

b. If required for the category to which you are responding, a hard copy of the bid or proposal security bond must be in the actual possession of AEPA at Lakes Country Service Cooperative, ATTN: Purchasing Dept, 1001 E Mt Faith, Fergus Falls, MN 56537, on or prior to the exact due date and time, on or prior to the exact due date and time. Failure to submit a copy with the response and to send the official security to AEPA will result in the Respondent being deemed non-responsive and will not be considered. Solicitation responses and securities (if required) not meeting the due date and time will not be accepted.

c. If the designated location for receiving the bid or proposal security is closed due to an unforeseen circumstance on the day the security is due (due date), the security will be

due at the same time on the next day the building is open. Responsive offers will be opened, and the name of each Respondent and other appropriate information will be posted to Public Purchase and the AEPA website.

F. **Solicitation Evaluation, Approval, and Award:** Solicitation responses received will be evaluated in accordance with acceptable standards of cooperative procurement, set forth in and governed by the Procurement Codes of AEPA Member Agency's states; AEPA by-laws, policies, and procedures; AEPA Member Agencies' policies and procedures.

For IFB categories, approval of prospective Vendor Partners and recommendation of contracts will be made to the lowest responsive and responsible Respondent utilizing the criteria listed in Part B of the solicitation. As a reminder, AEPA recommends offers to Respondents. Final contract awards are subsequently made by individual AEPA Member Agencies.

1. **Responsive Offer:** A responsive offer reasonably and substantially conforms to all material requirements of the solicitation. Offers must be responsive and approved by AEPA to receive award consideration by AEPA Member Agencies. To be determined responsive, the response must meet all of the requirements below:
    a. Submitted on time.
    b. Materially satisfy all mandatory requirements identified throughout the solicitation.
    c. Must substantially conform to all of the specified requirements in the solicitation in the judgment of AEPA and its AEPA Member Agency representatives.
    d. Any deviation from requirements indicated herein must be stated, in writing, and included with the offer submitted. Otherwise, it will be considered that responses are in strict compliance with all requirements, and any successful vendor will be held responsible, therefore.
    e. Deviations or exceptions stipulated in response may result in the offer being classified as non- responsive. Language to the effect that the Respondent does not consider this solicitation to be part of a contractual obligation will result in that Respondent's offer being disqualified. Terms of the solicitation that any Respondent considers particularly unwarranted, and to which that would have to take significant exception in his/her offer, should be stated clearly and concisely as exceptions and/or deviations.
    f. In preparing a proposal, the Respondent's inability to follow the proposal preparation instructions set forth in this solicitation and its inability to provide written responses, narratives, requested and support documentation relating to the Respondent's qualifications; abilities; capacity; products; specifications; delivery, installation, setup, maintenance; support services and pricing utilized by AEPA evaluators may result in the Respondent's offer to be deemed non-responsive.

2. **Non-responsive Offer:** Any offer that does not conform to all material requirements of the solicitation including, but not limited to: offers received after the deadline; offers that do not contain required items and/or provided in the format required, such as proper and/or signed forms, pricing, catalogs, electronic files; offers that do not contain the proper security bond where required; failure to meet the specified qualifications, product specifications, stipulated documentation or pricing equal to or better than individual entities or cooperatives with equal or lesser volume. AEPA reserves the right to request documents that do not affect pricing, waive minor irregularities, and/or seek clarification following its Board approved procedures. Offers deemed non-responsive will not be considered for approval and award.

3. **Responsible Respondent:** A responsible Respondent is a firm or person with the qualifications, capability, and capacity to perform the contract requirements with integrity and reliability, which will assure good faith performance. AEPA's approval of a response will make the Respondent available for consideration to the AEPA Member Agencies for contract award. If a Respondent is approved by AEPA, the AEPA Member Agency reserves the right to determine if said Vendor Partner is responsible in their respective state. Factors to be

considered in determining whether the standard of responsibility has been met may include but is not limited to whether a Vendor Partner has:

a. Submitted a responsive offer;
b. The qualifications stipulated herein that may include but are not limited to adequate financial resources, production or service facilities, personnel, service reputation and experience to make satisfactory delivery of the products, services, or construction, described in the solicitation to those AEPA member states who have indicated their participation;
c. A demonstrated and documented satisfactory track record of performance in the national market place;
d. A satisfactory record of integrity and a reputation of responding to and meeting educational and local government institutions' needs, adherence of and compliance with federal, state, local and industry standards, rules, regulations, and codes;
e. Quality and suitability of products and services offered to meet and perform to the specifications, expectations, and requirements identified in this solicitation;
f. Supplied all necessary information and data in connection with determining whether a Respondent meets the standard of responsibility.

4. **Cost Evaluation:**
   a. Cost and price schedules conform to and provide the information required in Part B – Technical Specifications of the bid or proposal;
   b. Pricing offered that is equal to or better than what they ordinarily offer to individual entities or cooperatives with equal or lesser volume;
   c. Methodology used by AEPA and its AEPA Member Agencies to approve prospective Vendor Partners and award contracts;
      i. Line Item Bid: Lowest responsive, responsible Bidder(s). Based on the cost evaluation, a recommendation will be made to approve a single Bidder or make a multiple Bidder award. The evaluation committee may consider such factors as life-cycle costs, total cost of ownership, quality, and the suitability of an offering in meeting AEPA members' needs; or
      ii. Catalog Bid: Lowest responsive, responsible Bidder(s) is/are determined based on the price evaluation criteria; and by a "Core List" and/or by creating a "Market Basket Study" to compare overall pricing between Respondents. A "Market Basket" is a list of items typically purchased by AEPA Member Agencies and their Participating Entities that represent a cross-section of the types of those items purchased. The selection and quantity of line items evaluated will be at the sole discretion of the AEPA evaluators. Based on the cost evaluation, a recommendation will be made to approve a single Bidder or make a multiple Bidder award. The evaluation committee may consider such factors as life-cycle costs, total cost of ownership, quality, and the suitability of an offering in meeting AEPA members' needs.
      iii. Proposal: Identified weighted criteria for evaluation, including pricing, published in Part B of the solicitation.

G. Contract Award and Implementation

An AEPA category committee will perform initial response review and evaluation and will prepare and make a recommendation to AEPA for its consideration and approval. Those selected Respondents who are approved by AEPA will then be considered by the individual AEPA Member Agencies for contract award. It should be noted that once AEPA has approved the response, a Respondent becomes a "Vendor Partner" for AEPA.

Recommendations for approval by AEPA will be posted to Public Purchase and the AEPA website.

Once the approved Respondents have been notified, it is their responsibility to contact those AEPA Member Agencies (up to 29) who had indicated an interest in participating and send Part C (if

applicable), Part D, E, and F to each of the participating AEPA Member Agencies. Each AEPA Member Agency will review, evaluate, and determine which, if any, it will award contracts to.

The approved Vendor Partner and the AEPA Member Agency will hold final contract negotiations, if necessary, to work out state-specific details of contract implementation including:

1. Acquiring additional information and having discussions on how the awarded contract will be executed.
2. Signing the contract with the AEPA Member Agency.
3. Jointly develop marketing strategies and a plan for contract roll-out activities to the AEPA Member Agency's Participating Entities (Advertising, flyers, website access, etc.).
4. Establish how orders will be processed, handled, and reported.
5. Contract management: Establish how and by whom the day-to-day contract management will be handled and who will be the AEPA Member Agency's representative.

It is not guaranteed that each AEPA Member Agency will enter into a contract with AEPA approved Vendor Partners. The final decision as to the appropriateness of a contract for a Member Agency rests solely with that AEPA Member Agency.

III. Responsibilities of A Vendor Partner

A. As an approved AEPA Vendor Partner, the following is expected in support of the contract:

1. Designate and assign a dedicated senior-level contract manager (one authorized to make decisions) to each of the Member Agency accounts. This employee will have a complete copy and must have a working knowledge of the contract.
2. Train and educate sales staff on what the AEPA cooperative contract promised, including pricing, who can order from the contract (by state), terms/conditions of the contract, and the respective ordering procedures for each state. It is expected that Vendor Partners will lead with AEPA contracts.
3. Develop a marketing plan to support the AEPA contract in collaboration with respective AEPA Member Agencies. The plan should include, but not be limited to, a website presence, electronic mailings, sales flyers, brochures, mailings, catalogs, etc.
4. Create an AEPA-specific sell sheet with a space to add a Member Agency logo and contact information for use by the Member Agencies and the Vendor Partner's local sales representatives to market within each state.
5. Quarterly, complete the sales and administrative fee report (see attached PDF example) and submit to each Member Agency along with the respective administrative fees to be paid. If there are no sales, a $0 report is required.
6. Report sales and administrative fees by participating state if requested by AEPA.
7. Have ongoing communication with the Category Committee Chairperson, AEPA Member Agencies, and the Member Agencies Participating Entities.
8. Annually attend two (2) AEPA meetings: Annual meeting which is typically in April and the Winter Meeting which is typically the end of November or early December and has historically been held in conjunction with the Association of Educational Service Agencies (AESA) annual conference. At the Annual Meeting, Vendor Partners participate in a round table meeting with each of the AEPA Member Agencies. Vendor Partners that have paid the registration fees can participate in the meetings.
9. Trade show support: Strongly encourage participation in national and local conference trade shows to promote the AEPA contracts such as, but not limited to, the Association of School Business Officials (ASBO), the National Institute of Governmental Purchasing (NIGP), and the National Association of Educational Procurement (NAEP).
10. Increasing sales over the term of the contract with all participating AEPA Member Agencies.

IV. Responsibilities of AEPA Member Agencies

A. In support of the Vendor Partner and respective contract, each AEPA Member Agency should provide the following support:

1. Designate a staff member(s) that will serve as a point person for the AEPA program within that state.
2. Provide a staff member to work collaboratively with the Vendor Partner to determine the best marketing plan for the respective Member Agency state. Marketing efforts may include but not be limited to the education and use of sales force, a website presence, electronic mailings, brochures, mailings, etc.
3. Develop marketing materials for the Member Agency to use that would include representation of the awarded contracts. Materials may include, but not be limited to, a website presence, electronic mailings, sales flyers, brochures, mailings, catalogs, etc. as determined by the respective Member Agency and what works best within their state.
4. Assist the Vendor Partner to jointly market the contract to potential Participating Entities within the state.
5. Work with the Vendor Partner to identify eligible Participating Entities within the state possibly including providing a list of potential customers.
6. Work with the Vendor Partner to identify and help manage costs associated with fulfilling this contract.
7. Attendance at the two (2) AEPA meetings which provides for an opportunity to interact with Vendor Partners.

V. General Terms and Conditions for All Agencies

For the purposes of this Solicitation, the following terms shall be defined as indicated below, and constitute the general terms and conditions for all AEPA Member Agencies:

Administrative Fee: The percentage of sales that each Vendor Partner pays the Member Agency for sales in their respective state or states that they extend the AEPA pricing to. Administrative Fees shall be paid to each Member Agency quarterly. See the Summary of State General Overview for the administrative fees by Member Agency (state).

Advertising: Vendor Partner shall not advertise or publish information concerning this contract prior to the award being announced by the AEPA Member Agencies. Once the award is made, the Vendor Partner may advertise to the individual Participating Entities that products/services are available. Vendor Partner shall submit ad copy to the AEPA Member Agency for review and approval prior to issuing the advertisement.

AEPA Bi-Annual Meetings: AEPA holds two general meetings each year: one in the Spring (usually in April or May) and the other in the Fall (currently the week after Thanksgiving). AEPA requires that all successful contract holders attend both meetings and participate in the vendor round tables at the Spring meeting. AEPA requests that all vendor partners register in advance and stay at the AEPA official hotel if rooms are available. All registrations for the meetings are required by the official registration due date as announced by AEPA.

AEPA Member Agency: Refers to the entities identified in the table in Part I of this document who are approved as AEPA members. Member Agencies participating in a particular category are listed in Part B - Specifications, Item 3: Anticipated Member Agency Participation. "Direct or Indirect Participation" may include their involvement through the formulation of any part of a procurement activity; the influencing of the content of any term, condition and/or specification; the evaluation, investigation, auditing and/or the rendering, of advice, recommendation, decision, approval, disapproval and the award and implementation of procurement contract. Not every listed entity may elect to participate in a solicitation once the responses are reviewed and approved.

Affirmative Action: An Affirmative Action Plan, Certificate of Affirmative Action, or other documentation regarding Affirmative Action may be required by AEPA Member Agencies. Vendors must comply with requirements and/or requests for information regarding Affirmative Action by Member Agencies.

Amendment of Solicitation: A solicitation may be amended up to the time of opening.

Applicable Law: The laws of the state of the respective AEPA Member Agency shall govern any resulting contract of this solicitation. Suits pertaining to this contract may be brought only in courts in the County and State as prescribed by the AEPA Member Agency. Both parties agree that the Uniform Commercial Code, as adopted by the State of the AEPA Member Agency, shall fully apply. The Vendor Partner shall comply with any and all laws, whether local, state, federal or otherwise, applicable to any aspect of the work to be performed in relation to the resulting contract. It shall be the Vendor Partner's responsibility to identify, make themselves aware of, and determine the applicability and requirements of any such laws and to abide by them.

Approval and Awarding of Contract: AEPA and its AEPA Member Agencies reserve the right to approve and award a contract to one Vendor Partner, to make multiple approvals and awards, to reject any or all offers in whole or in part, to waive any minor formalities or irregularities in any offers, and to accept offers, which in its discretion and according to law may be in the best interest of the AEPA Member Agencies and their Participating Entities. A response to this solicitation is an offer to contract with the AEPA Member Agencies based upon the terms, conditions, and scope of work and specifications contained in this invitation. A solicitation does not become a contract unless and until it is accepted, recommended, and approved by AEPA and awarded by the individual AEPA Member Agency. A contract is formed when an AEPA Member Agency administrator and, if required, an AEPA Member Agency Board approves and signs the Acceptance of Solicitation and Contract Award Form (see Form E) document, eliminating the need for a formal signing of a separate contract.

Assignment: No right or interest in this contract shall be assigned or transferred by the Vendor Partner without prior written permission by AEPA and its AEPA Member Agencies, and no delegation of any duty of the Vendor Partner shall be made without prior written permission by the AEPA Member Agency. AEPA and its AEPA Member Agencies shall not unreasonably withhold approval and shall notify the Vendor Partner within fifteen (15) days of receipt of written notice by the Vendor Partner.

Audit Rights: In accordance with applicable law of the State of the AEPA Member Agency, the Vendor Partner's books, and pertinent records related to this contract may be audited at a reasonable time and place.

Authority: This solicitation, as well as any resulting contract/agreement, is issued under the general authority of the State laws of the AEPA Member Agency and those identified within the AEPA Member Agencies' Specific Terms and Conditions, Part C, (see also Procurement Code below). Internal or external Cooperative Purchasing Agreements between the AEPA Member Agency and Participating Entities may exist.

Respondent/Bidder/Vendor Partner Definitions:
Bidder, Respondent, **Offeror,** and **Vendor Partner** are <u>interchangeable</u> and are used to identify the person(s) or firm(s) submitting a response to an Invitation for Bid or Request for Proposal.

1. Prospective Respondent/Bidder/Offeror: has notified AEPA of a desire to bid by registering on the AEPA website. "Bidder" has submitted an offer to AEPA in response to an AEPA solicitation.
2. Recommended Respondent/Bidder/Offerer: has been approved by AEPA for its AEPA Member Agencies for contract consideration.
3. Vendor Partner: has entered into a contract with a participating AEPA Member Agency or subsequently a Participating Entity.

Respondent Acceptance Period: To allow AEPA Member Agencies the opportunity to evaluate the offers, AEPA requires that an offer in response to this solicitation be valid and irrevocable for one hundred twenty-days (120) after opening time and date.

Performance Bonding (required for construction projects): Performance bonds are completed after the contract and at the time a member authorizes a project. The Vendor Partner agrees to provide all performance and payment bonds for individual projects executed by a surety company authorized to do business in the individual AEPA Member's state and said surety to be approved in federal circular 570 as published by the United States treasury department, the state or the local governing authority, in an amount equal to one hundred percent of the price specified in the contract; when required by an AEPA Member Agency or Participating Entity at the time a contract is executed. If the Vendor Partner fails to deliver any required performance or payment bonds, the AEPA Member Agency or Participating Entity shall not execute the contract or terminate the contract with the Vendor Partner and the appropriate AEPA Category Committee shall be notified of such failure and shall take the appropriate action.

Brand Names: The use of the name of a manufacturer, brand, make or catalog number does not restrict the Respondent. Brand names and model numbers are used to indicate the character, quality, and/or performance equivalence of the commodity on which offers are submitted. Respondents may submit alternates. However, the AEPA reserves the right to decide whether alternatives to the identified manufacturer and brand are equal to the product, equipment, and/or service described in the invitation. AEPA's decision shall be final.

Buyer: Identifies the AEPA Member Agencies and their Participating Entities that acquire and purchase commodities, supplies, materials, equipment, and services under AEPA Member Agencies' awarded contracts.

Captions, Headings, and Illustrations: The captions, illustrations, headings, and subheadings in this solicitation are for explanation only and in no way define, limit or describe the scope or intent of the request.

Certification: By signature in the solicitation section of the Contract Award page, the Respondent certifies: the submission of the offer did not involve collusion or other anti-competitive practices; the Respondent shall not discriminate against any employee, or applicant for employment in violation of Federal and State Laws (see Federal Executive Order 11246); the Respondent has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor or service to a public servant in connection with the submitted offer; and the Respondent agrees to promote and offer to AEPA Member Agencies and Participating Entities only those materials and/or services as stated in and allowed under resultant contract(s) awarded.

Christian Doctrine: Any federal, state and local governing authority's/jurisdiction's statutes, codes, rules and regulations referenced and/or govern the products, services, and activities relating to and are part of this solicitation, whether or not physically noted or included, shall be complied with and adhered to as required. It is the sole responsibility of the Respondent to perform and complete any necessary research and investigation required to make themselves aware of and comply with this item.

Clarification: As used in this solicitation, clarification means communication with a Respondent for the sole purpose of eliminating minor irregularities, informalities, or apparent clerical mistakes in the solicitation. It is achieved by explanation or substantiation, either in response to an inquiry by the AEPA Member Agency or as initiated by the Respondent. Clarification does not allow the Respondent to revise or modify its solicitation.

Commercially Available Catalog: A published paper catalog or an online website that is widely distributed or accessible. It is made available to the general public, public or nonprofit entities and contains a verifiable price, along with product descriptions, SKU numbers, and photographs. A commercially available catalog is distinct from a custom catalog or website, whose prices and offerings are tailored to niche audiences.

Competitive Range: AEPA and its AEPA Member Agencies reserve the right to establish a competitive range of acceptable responses as part of the evaluation process as defined herein. Responses below the competitive range will be determined to be unacceptable and will not receive further consideration.

Contract Documents: AEPA Member Agency will review proposed contract documents. Vendor Partner's contract document shall not become part of AEPA Member Agency's contract with Vendor Partner unless and until an authorized representative of an AEPA Member Agency reviews and accepts it.

Construction: Each AEPA Member Agency within their state statutes defines what constitutes construction, identifies the policies, rules, regulations, and codes that govern construction projects. AEPA has defined construction as building, altering, repairing, installing or demolishing in the ordinary course of business any road, highway, bridge, parking area or related project; building, stadium or other structure; airport, subway or similar facility; park, trail, athletic field, golf course or similar facility; dam, reservoir, canal, ditch or similar facility; sewage or water treatment facility, power generating plant, pump station, natural gas compressing station or similar facility; sewage, water, gas or other pipelines; transmission line; radio, television or other towers; water, oil or other storage tanks; shaft, tunnel or other mining appurtenance; electrical wiring, plumbing or plumbing fixture, gas piping, gas appliances or water conditioners; air conditioning conduit, heating or other similar mechanical work; or similar work, structures or installations. Construction shall also include leveling or clearing land; excavating earth; drilling wells of any type, including seismographic shot holes or core drilling; and similar work, structures, or installations.

Cooperative Procurement: Some individual state procurement codes may contain cooperative purchasing statutes that state any state agency or local public body may either participate in, sponsor or administer a cooperative procurement agreement for the procurement of any services, construction or items of tangible personal property with any other state agency, local public body or external procurement unit in accordance with an agreement entered into and approved by the governing authority of each of the state agencies, local public bodies or external procurement units involved. The cooperative procurement agreement shall clearly specify the purpose of the agreement and the method by which the purpose will be accomplished. Any power exercised under a cooperative procurement agreement entered into according to each state's procurement code shall be limited to the central purchasing authority common to the contracting parties, even though one or more of the contracting, parties may be located in different states.

Cooperative Purchasing Contracts: The Vendor Partner agrees that all the prices, terms, warranties, and benefits granted by the Vendor Partner to AEPA Member Agencies or Participating Entities through this contract **will be equal to or better than** those offered to any individual entities or cooperatives that have equal or lesser volume. If the Vendor Partner shall, during the term of this Contract, enter into arrangements with any customer or cooperative providing greater benefits or terms that are more favorable, the Vendor Partner shall notify the AEPA category committee chairman and offer said prices, terms, warranties and benefits to all AEPA Member Agencies. The following shall be noted:

1. AEPA and its AEPA Member Agencies reserve the right to accept or reject the Respondent's offer if it is determined it does not comply with the above based on their knowledge, investigation, review, and findings of Respondents' submitted prices.
2. In the event the Vendor Partner offers lower prices to another customer or cooperative, AEPA and its AEPA Member Agencies shall notify the Vendor Partner of the deviation and request written justification. Based on AEPA and its AEPA Member Agencies' investigation, review and findings, AEPA reserves the right to take the following actions: to request the Vendor Partner to immediately adjust its AEPA's offered prices to match the lower prices offered, to work with the Vendor Partner to mediate and resolve the situation; or to notify the Vendor Partner that it intends to suspend and/or terminate their contract.

Cost of Preparation: Neither AEPA nor any AEPA Member Agency shall reimburse the cost of developing, presenting, or providing any response to this solicitation.

Credit Hold: The Vendor Partner must agree not to place the AEPA Member Agency and/or its Participating Entity on "credit hold" without 10-days advanced notice in writing, either by letter, facsimile or email to the AEPA Member Agency and the Participating Entity. The AEPA Member Agencies believe it is better for the Vendor Partner if the AEPA Member Agency places the slow-paying Agency Member on "credit hold;" if a Vendor Partner places the Participating Entity on credit hold, agencies that pay promptly are penalized. If, on the other hand, the Member Agency places the offending Participating Entity on "credit hold", payment is more likely to result and only the offender is disciplined.

Delivery Terms, Conditions, and Requirements

1. **Delivery:** is to be made within the specified time identified in Part B Specifications for each solicitation category, unless otherwise stipulated in writing and accepted by all parties (Buyer placing order and Vendor Partner). The Vendor Partner agrees to notify the Buyer if an order cannot be processed within the specified period and/or the agreed-upon timelines.
2. **The title and risk of loss of material or service:** shall not pass to the Buyer purchasing the material or services until it receives the material or service at the point of delivery (FOB Destination) and they have been accepted, unless otherwise provided within this document or individual project's contract.
3. **Ownership of products and services** happens only after receipt and acceptance of delivery by the Buyer. The Buyer will be the determining judge of whether materials and services delivered under the purchase order/contract satisfy the specifications and requirements as identified in the contract/order.
4. **Fungible Goods:** Title to an undivided share or quantity of an identified mass of fungible goods will not pass to a Buyer until the separation of the purchased share has been made, delivered, and received.
5. **Shipping Terms:** (See Part B Specifications for specific instructions on shipping and handling costs for the individual category you are responding to.) Vendor Partner shall retain the title and control of all goods until they are delivered and received. All risks of transportation and all related charges shall be the responsibility of the Vendor Partner unless other arrangements have been made between the vendor partner and the AEPA Member Agency. Shipping shall be FOB destination. The Vendor Partner shall file all claims for visible or concealed damage. AEPA Member Agency, or the receiving Buyer, will notify the Vendor Partner and/or Freight Company promptly of any damaged goods and shall assist the freight company/Vendor Partner in arranging for inspection. No FOB vessel, car, or other vehicle terms will be accepted.
    a. **Shipping Costs:** Products may be shipped without separate shipping costs. If shipping is allowed as a separate line item per Part B Specifications and charged, the actual cost of delivery may be added to an invoice. No COD orders will be accepted unless specifically requested by the AEPA Member Agency.
    b. **Shipment under Reservation:** Vendor Partner is not authorized to ship materials under reservation and no tender of a bill of lading will operate as a tender of the materials.
    c. **Shipping Errors:** Vendor Partner agrees that shipping errors will be at the expense of the Vendor Partner. For example, if a Vendor Partnerships a product that was not ordered, it is the responsibility of the Vendor Partner to pay for return mail or shipment.
6. **Stored Materials (vendor managed inventory):** Upon prior written agreement between Vendor Partner and Buyer, payment may be made for materials not incorporated in the work but delivered and suitably stored at the site or some other location, for installation at a later date. An inventory of the stored materials must be provided to the Buyer prior to payment. Such materials must be stored and protected in a secure location and be insured for their full value by Vendor Partner against loss and damage. Vendor Partner agrees to provide proof of coverage and/or addition of Buyer as an additional insured upon Buyer's request. Additionally, if stored offsite, the materials must also be clearly identified as the property of the Buyer and be separated from other materials.

The buyer must be allowed reasonable opportunity to inspect and take inventory of stored materials, on or offsite, as necessary. Until final acceptance by Buyer, it shall be the Vendor Partner's responsibility to protect all materials and equipment. Vendor Partner warrants and guarantees that title for all work, materials, and equipment shall pass to Buyer upon final acceptance. Payment for stored materials shall not constitute final acceptance of such materials.

7. **Improper delivery:** Unless contrary to other parts of this solicitation, if the goods, services, or tender of delivery fail in any respect to conform and adhere to the terms, conditions, specifications of the resulting contract based on this solicitation and/or the individual Buyer's contract/order. The Buyer may reject the whole, accept the whole, or accept any commercial unit or units and reject the rest.
8. **Defective Goods:** Vendor Partner agrees to pay for return shipment on goods that arrive in a defective or inoperable condition. Vendor Partner must agree to arrange for return shipment of damaged goods.
9. **Liquidated Damages:** The Buyer may suffer financial loss if the project is not substantially complete or products or services are not delivered on the established date. The Vendor Partner (if applicable surety) shall be liable for and shall pay to the Buyer, not as a penalty, the sums that may be hereinafter agreed upon as liquidated damages per calendar day of delay until the work and/or delivery is determined by Buyer to be complete and/or delivered. Liquidated damages will be determined on a project-by-project basis.
10. **No Replacement of Defective Tender:** Every tender of materials must fully comply with all provisions of this contract. If tender is made which does not fully conform, this shall constitute a breach, and Vendor Partner shall not have the right to substitute a conforming tender without the written consent of all parties involved.
11. **Default in One Installment to Constitute Total Breach:** Vendor Partner shall deliver conforming materials in each installment or lot of this contract and may not substitute nonconforming materials. The AEPA Member Agency reserves the right to declare a breach of contract if the Vendor Partner delivers nonconforming materials or services to any Buyer under this contract.
12. **Restocking Fees:** A restocking fee may only be charged on products ordered and delivered to the Buyer's site in accordance with the order/contract. Restocking fees in excess of 15% will not be allowed. Restocking fees may be waived, at the option of the Vendor Partner. The Vendor Partner must identify, specify, and justify any exceptions or deviations taken.

Deviations or Exceptions to Requirements: Deviations or exceptions stipulated in a Respondent's proposal may result in the rendering of the response non-responsive. AEPA and its AEPA Member Agencies reserve the right to determine whether the deviation or exception does or does not serve the interest of or is not advantageous or acceptable to AEPA, its AEPA Member Agencies, or Participating Entities.

Disbarment and Suspension: By signature accepting Terms and Conditions, it is certified on behalf of the company and their key employees that neither the company nor its key employees have been proposed for debarment, debarred, or suspended by any State or Federal Agency within the last five (5) years. If within the past five (5) years, any Respondent has been disbarred, suspended or otherwise lawfully precluded from participating in any public procurement activity with a federal, state or local government, the Respondent must include a letter with its response that includes the name and address of the public procurement unit, the effective date of the suspension or debarment, the duration of the suspension or debarment, and the relevant circumstances relating to the suspension or debarment. Any failure to supply such a letter or to not disclose in the letter all the pertinent information may result in the cancellation of any resulting contract. By signing the solicitation section, the Respondent certifies that no current suspension or debarment exists.

EDGAR (2 CFR 200) Compliance: Respondents are required to complete Education Department General Administrative Regulations (EDGAR) compliance certification. EDGAR regulations govern all federal grants awarded by the U. S. Department of Education on or after December 26, 2014.

Eligible Entities: The individual AEPA Member Agency's state procurement code and statutes provide for cooperative procurement and identifies those types of agencies, entities, and organizations that are allowed to participate in and take advantage of cooperative procurement contracts solicited and approved by AEPA and awarded by AEPA Member Agencies. Therefore, depending on the individual state procurement codes and statutes federal agencies, state agencies, local public bodies, and Non-Profit/Non-Public entities may be allowed to participate in and utilize AEPA solicited, approved and AEPA Member Agency awarded contracts.

Estimated Quantities: In Part B: Specifications of this solicitation, AEPA, and AEPA Member Agencies have indicated their anticipated volume for the products and services requested. It is anticipated that a considerable amount of activity will result from this solicitation; however, there is no guarantee of future order quantities since this is an indefinite-quantity contract. Usage depends on the actual needs of the AEPA Member Agencies, their Participating Entities, and the marketing by the Vendor Partner.

Experience, Proven Track Record and Past Performance Information: it has been determined by AEPA and its AEPA Member Agencies to be a major factor in consideration if a Respondent possesses the ability, capacity and resources to acquire, manufacture, deliver, construct, install, services and support all of the procurement functions and activities involved in a national contract of this nature. AEPA and its AEPA Member Agencies reserve the right to accept or reject an offer if, in its judgment, the Respondent failed to demonstrate the following: a proven track record in the products and services offered (qualifications, knowledge, and background); is willing and able to deliver the proposed products and/or services to ninety (90%) percent of those participating AEPA Member Agencies identified in Part B (unless otherwise noted in Part B): Specifications; and has provided relevant information regarding its actions under previously awarded contracts to schools, local, state, or federal agencies. It includes the Respondent's record of conforming to specifications and standards of good workmanship; the Respondent's record of containing and forecasting costs on any previously performed cost-reimbursable contract schedules, including the administrative aspects of performance; the Respondent's history for reasonable and cooperative behavior and commitment to customer satisfaction; and generally, the Respondent's businesslike concern for the interests of the customer.

External Procurement Unit: means any procurement organization not located in a current AEPA Member Agency state which, if located in the state, would qualify as a federal or state agency or a local public body. Various state procurement codes allow external procurement units to offer their contracts and for agencies within those states to utilize those contracts to acquire goods and services.

Federal Agency [25] USC 3001 (4): Is defined as any department, agency, or instrumentality of the United States, any executive department, military department, government corporation, government-controlled corporation, or other establishments in the executive branch of government, including the Executive Office of the President or any independent regulatory agency established through legislative and/or administrative action.

Federal Requirements: Vendor Partner agrees, when working on any federally-assisted projects with more than $2,000 in labor costs, to comply with the Contract Work Hours and Safety Standards Act (40 U.S.C. 329 et seq.) and all applicable sections of the act and the Department of Labor's supplemental regulations (29 CFR parts 5 and 1926), the Civil Rights Act of 1964 as amended, the Davis-Bacon Act (Section 29, CFR Part 5), the Copeland "Anti-Kickback" Act (18 U.S.C. 874) as supplemented in the Department of Labor regulation (29 CFR part 3), and the Equal Opportunity Employment requirements of Executive Order 11246 as amended by Executive Order 11375 (Labor regulations (41 CFR Part 60)). In such projects, the Vendor Partner agrees to post wage rates at the worksite and submit a copy of their payroll to the AEPA Member Agency for their files. Also, to comply with the Copeland Act, the Vendor Partner must submit weekly payroll records to the AEPA Member Agency. The Vendor Partner must keep records for three (3) years and allow the federal grantor agency access to these records, upon demand. All federally assisted contracts to an AEPA Member Agency that exceed $10,000 may be terminated by the federal grantee for noncompliance by the Vendor Partner. In

projects that are not federally funded, Vendor Partners must agree to meet any federal, state, or local requirements, as necessary. Also, if compliance with the federal regulations increases the contract costs beyond the agreed-on costs in this solicitation, the additional costs may only apply to the portion of the work paid by the federal grantee. On all other projects, the prices must agree with this contract. Vendor Partner shall comply with all applicable standards, orders, or requirements issued under Section 306 of the Clean Air Act (42 U.S.C.) 187 [h], and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251 et. Seq.); and, Executive Order 11738 and Environmental Protection Agency (EPA) regulations (40 CFR Part 15), which prohibit the use under non-exempt federal contracts, grants, or loans of facilities included in the EPA list of violated facilities

Force Majeure: Except for payments of sums due, neither party shall be liable to the other, nor be deemed in default under this contract, if, and to the extent, that such party's performance of this contract is prevented by reason of force majeure. The term "force majeure" means an occurrence that is beyond the control of the party affected and occurs without its fault or negligence, including, but not limited to the following: acts of God; acts of the public enemy; war; riots; strikes; mobilization; labor disputes; civil disorders; fire; flood; blizzards; earthquakes; tornadoes or violent winds; hail storms; lockouts; injunctions-intervention-acts, or failures or refusals to act by government authority; and other similar occurrences beyond the control of the party declaring force majeure, which such party is unable to prevent by exercising reasonable diligence. The force majeure shall be deemed to commence when the party declaring it notifies the other party of the existence of the force majeure and shall be deemed to continue as long as the results or effects of the force majeure prevent the party from resuming performance in accordance with the contract. Force majeure shall not include late deliveries of equipment or materials caused by congestion at a manufacturer's plant or elsewhere, an oversold condition of the market, inefficiencies, or similar occurrences. If either party is delayed at any time by force majeure, the delayed party shall notify the other party in writing of such delay within forty-eight (48) hours.

Form of Contract: The form of contract for this solicitation shall be the published solicitation, the awarded Vendor Partner's response, and properly issued purchase orders and/or contracts in accordance with this solicitation. If a firm submitting an offer requires AEPA Member Agency and/or Participating Entities to sign an additional contract, a copy of the proposed contract must be included with these.

Gratuities: AEPA Member Agency may, by written notice, cancel this contract if it is found that gratuities, in the form of entertainment, gifts or otherwise, were offered or given by the Vendor Partner or any agent or representative of the Vendor Partner, to any employee of the AEPA Member Agency with a view toward securing a contract or with respect to the performance of this contact. However, paying the expenses of normal business meals, which are generally made available to all eligible school and government employees, shall not be prohibited by this paragraph. Samples of software, equipment, or hardware provided to the AEPA Member Agency for demonstration, evaluation, or loan purposes are not considered gratuities.

Indemnification: Vendor Partner will indemnify, defend and save harmless AEPA, its Members, Participating Entities, its employees from any and all claims, demands, suits, proceedings, loss, cost and damages of every kind and description, including any attorney's fees and/or litigation expenses, which might be brought or made against or incurred by AEPA, its Members, Participating Entities, its employees on account of loss or damage to any property or for injuries to or death of any person, caused by, arising out of, or contributed to, in whole or in part, by reasons of any act, omission, professional error, fault, mistake, or negligence of Vendor Partner, its employees, agents, representatives, or Subcontractors, their employees, agents, or representatives in connection with or incident to the performance of this agreement, or arising out of worker's compensation claims, unemployment compensation claims, or unemployment disability compensation claims of employees of Vendor Partner, and/or its Subcontractors or claims under similar such laws or obligations. Vendor Partner's obligation under this section will not extend to any liability caused by the sole negligence of AEPA, its Members, participating Entities, its employees. The liability of AEPA, its Members,

Participating Entities, or its employees will be subject in all cases to the immunities and limitations of Nevada or the AEPA Member Agency's state laws. Installation: Equipment and items of construction shall be installed in accordance with the manufacturer's instructions, specifications, in accordance with any federal, state, local rules, regulations, codes, and the schedule determined by the AEPA Member Agency and/or Participating Entity.

Insurance: Prior to executing a contract with the AEPA Member Agency or a Participating Entity under this solicitation, if required, the Vendor Partner shall procure, maintain and provide certification from insurer(s) for minimal coverage during the life of any resulting contract/agreement, to include but not limited to comprehensive public and/or commercial liability, errors and omissions, workman's compensation, unemployment and other insurance coverage required by and applicable to each AEPA Member Agency state's statutes and federal laws in which proposed products and services will be offered and provided. Evidence of the required insurance for each of those AEPA Member Agencies' state, who indicated an interest to participate in this solicitation, identified in Part B: Specifications by providing written evidence and/or documentation from your insurer(s) indicating your firm has in place the type and amount of coverage required by each of the states. The Bidder has the sole responsibility to conduct and perform the necessary research to make themselves aware of and to understand each state's requirements.

1. Certificate of Insurance: The Vendor Partner shall provide, as required, a certificate of insurance for commercial liability insurance naming the AEPA Member Agency and or its Participating Entity as the certificate holder (co-insurer). All insurance policies are to be executed by an insurance company authorized to do business in those AEPA Member Agencies' states participating in this solicitation.
2. Subcontractor's Insurance: Prior to commencing any work, any Subcontractor shall procure and maintain, at its own expense until final acceptance of the work, insurance coverage in a form, and from insurers acceptable to the prime Vendor Partner. All Subcontractors shall hold the appropriate type and amount of insurance coverage required by the AEPA Member Agency state in which the work is being done and will provide insurance, which waives all subrogation rights against the prime Vendor Partner, AEPA Member Agency and its Participating Entities.

Invalid Term or Condition: If any term or condition of this solicitation and any resulting contract shall be held invalid or unenforceable, the remainder of this solicitation and any resulting contract shall not be affected and shall be valid and enforceable.

Late Responses: Late responses will not be accepted. All offers must be submitted online via Public Purchase by the due date and time of this solicitation.

Leases and Rentals: Vendor Partner may allow AEPA Member Agency or Participating Entity to rent, lease, or lease-purchase. The buyer must receive a copy of the executed leasing documents prior to processing a purchase order. Vendor Partner agrees that leases will comply with the Uniform Commercial Code and the Buyer's individual state laws. All terms of leasing must be included in the offer, with interest rates described as related to a published government standard. Vendor Partner must indicate in their response to this solicitation and in any leasing/rental agreement, all costs (must be itemized) associated with early termination and/or the returning of leased or rented equipment that are the responsibility of the Buyer. No sale of a contract to a third party will be made without informing the Buyer of the transfer. If Vendor Partner sells a lease contract to a third party, the cost of return of the product must not be greater than the cost of return to the original Vendor Partner.

Legal Remedies: All claims and controversies shall be subject to the Procurement Code of the state in which the AEPA Member Agency or Participating Entity resides.

Licenses and Registration: Each state and local jurisdictions in which a transaction may occur may require various types of licenses and/or registrations (business, construction Vendor Partner, etc.). Likewise, there are various policies, procedures, rules, regulations, codes, and laws that govern such licensing/registration within federal, state and local jurisdictions, therefore, it is the

Respondent's/Vendor Partner's responsibility to be aware of, obtain and maintain in current status all federal, state and local licenses, registrations and bonds required for the performance and delivery of any and all products and services offered in its response to this solicitation. It is also the responsibility of the Respondent/Vendor Partner to ensure that any Subcontractors performing under this solicitation hold and maintain the appropriate licenses/registrations. The Respondent will submit copies of licenses, registration, and/or other documentation to substantiate they hold the appropriate licenses/registration required by individual jurisdictions covered by this solicitation.

Liens: All materials and services shall be free of all liens.

Local Public Body: A political subdivision of the state and the agencies, instrumentalities, and institutions thereof. Such agencies may include but are not limited to two-year and four-year post-secondary educational institutions, pre-k-12 institutions, counties, cities, and municipalities, except as exempted pursuant to the Procurement Code within each state. Entities within these groups may include but are not limited to political subdivisions, administrative units, councils, commissions, boards and organizations that either by federal, state or local legislative or administrative action or appointment and have been established or given the responsibility and authority to act, conduct and perform various activities on behalf of the federal or state agency or local public body.

Manufacturer's Representative: Dealers, distributors, and installers of specialized facility technology, electrical, mechanical systems and equipment, who, if permitted by the Scope of Work, submit an offer as a manufacturer's representative, must be able to provide documented evidence from and/or between it and the manufacturer certifying that the Respondent is a bona fide manufacturer's agent for the specific products/services proposed, the Respondent is authorized to submit an offer on such products/services, and a guarantee that, should the Respondent fail to satisfactorily fulfill any obligations established as a result of the award of contract, the manufacturer will either assume and discharge such obligations covered by warrantees or provide for their competent assumption by one or more bona fide representatives for the term of the contract/warrantee period. Respondents of software, mechanical devices, electrical products/systems, and other commodities that makeup systems/networks must be able to provide the same information from a manufacturer.

Modification by Buyer: Vendor Partner shall have no obligation with respect to any patent and copyright infringement claim based upon Buyer's modification of the equipment and/or software, or its operation or use with apparatus, data or programs not furnished by Vendor Partner. However, one Buyer's action will not preclude Vendor Partner's obligation to others not having modified their equipment or software.

Money: All transactions are payable in U.S. currency only. Multiple Approvals and Awards: throughout the United States, AEPA Member Agencies have a large number of Participating Entities who take advantage of and utilize awarded contracts. To assure that any issued contract will allow these entities to fulfill current and future needs and requirements, AEPA and its AEPA Member Agencies reserve the right at its discretion to approve and/or award one contract, multiple contracts or no contracts. The actual use of any contract will be at the sole discretion of the AEPA Member Agency or the Participating Entity.

Nonexclusive Contract: Any contract resulting from this solicitation shall be approved and awarded with the understanding and agreement that it is for the sole convenience of the AEPA, its AEPA Member Agencies, their Participating Entities and they reserve the right to obtain like goods and services from another source.

Nonprofit, Non-Public Educational Institutions and other Nonprofit Organizations (Section 501(c)(3) of the Internal Revenue Code, Federal Tax Code): is defined as charitable, religious, educational, public service, support, and scientific organizations, entities, corporations that qualify as exempt organizations under Section 501(c)(3) of the Internal Revenue Code, or corresponding section of the Federal Tax Code.

Notice: Notices under this solicitation/contract will be in writing and will, for all purposes, be deemed to have been fully given when sent by registered or certified mail, return receipt requested, postage prepaid, an email with appropriate verification, properly addressed to the respective parties as specified herein or at such other address as may be specified by either party from time to time.

Novation: If the original Vendor Partner sells or transfers all assets or the entire portion of the assets used to perform this contract, a successor in interest must guarantee to perform all obligations under this contract. AEPA and its AEPA Member Agencies reserves the right to recommend approval, acceptance, or rejection of the new party. A simple change of name agreement will not change the contractual obligations of the Vendor Partner.

Ordering Procedures: AEPA has established a standard and special ordering process as defined below. Additionally, some AEPA Member Agencies also prefer or utilize electronic ordering as the method for the transactions. For details on the ordering processes utilized for each AEPA Member Agency, please reference the Summary of State General Overview.

1. **Standard Ordering Process:** Buyer will select items for purchase from provided published catalog/price list or Vendor Partner will issue a quote upon request; the vendor will also send a copy of their quote to the state AEPA Member Agency for all construction-related bids. The buyer will prepare and issue a purchase order to the Vendor Partner based on the product catalog, price list, or Vendor Partner's quote. Vendor Partner will deliver and invoice the Buyer; Buyer will acknowledge delivery and acceptance by issuing the Vendor Partner payment. Vendor Partner, based on the agreed-to process, will report and submit payment for the AEPA Member Agency's administrative fee to the AEPA Member Agency (quarterly). The vendor Partner shall provide the transaction and volume reporting in the AEPA report format.
2. **Special Ordering Process:**
    a. Buyer will select items for purchase from provided published catalog/price list or Vendor Partner will issue a quote upon request;
    b. Buyer will prepare and issue a purchase order to the AEPA Member Agency based on the product catalog, price list or Vendor Partner's quote;
    c. Vendor Partner will deliver the goods and/or service to the Buyer and will invoice the AEPA Member Agency;
    d. AEPA Member will invoice the Buyer and add their administrative fee to the invoice price;
    e. AEPA Member will pay Vendor Partner for the goods and/or service once the Buyer has confirmed acceptance.
    f. The vendor Partner shall provide the transaction and volume reporting as stipulated quarterly in the AEPA report format.
3. **Electronic Ordering (Optional by AEPA Member Agency):**
    a. When a Vendor Partner based online ordering system is available, the following functionality is preferred:
    b. Electronic ordering systems shall be secure, and password protected. Entering the system with the designated password shall automatically send the user to AEPA contract pricing.
    c. When the Buyer requires purchase orders, electronic ordering system shall require the entry of a purchase order number, credit card, or purchasing card prior to accepting an order.
    d. Electronic ordering systems shall block excluded items not covered by the AEPA contract from any order.
    e. Electronic ordering systems shall automatically assign correct contract prices to applicable orders.
    f. Electronic ordering systems that list catalog price and AEPA discounted price.
    g. Electronic ordering systems shall track orders and purchases covered by the AEPA contract for reporting and audit purposes. The vendor Partner shall provide the transaction and volume reporting in the AEPA format.
    h. Electronic ordering systems' pricing shall include the AEPA Member Agencies administrative fee required by the AEPA Member Agencies.

i. Electronic ordering systems that allow AEPA Member Agencies to print an archived (historical) copy of a Buyer's order.

Order of Precedence: In the event a conflict occurs the following order of precedence shall prevail:
1. Member Agency specific terms and conditions
2. Specifications and scope of work
3. General terms and conditions
4. Attachments and exhibits
5. Documents referenced or included in the solicitation

Overcharges by Antitrust Violations: Member Agency maintains that, in actual practice, overcharges resulting from antitrust violations are borne by the Buyer. Therefore, to the extent permitted by law, the Vendor Partner hereby assigns to the Member Agency any and all claims for such overcharges as to the goods or services used to fulfill the contract.

Parole Evidence: This contract represents the final written expression of agreement. All agreements are contained herein and no other agreements or representations that materially alter it are acceptable.

Participating Entity: Those Public and Private School Districts, Educational Service Agencies, Intermediate School Districts, Higher Education Institutions, Federal Agencies, State Agencies, Local Public Bodies, and Nonprofit Non-Public Corporations, Organizations, other entities contracted to conduct business on behalf of a participating entity provided they are required to follow member state and local procurement regulations, etc. that have authorizations to utilize the AEPA Member Agencies' Awarded Contracts.

Patent and Copyright Indemnification: To the extent permitted by law, Vendor Partner shall indemnify and hold harmless Member Agency and its Participating Entities against any liability, including costs and expenses, for infringement of any patent, trademark or copyright arising out of contract performance or use by Member Agency and its Participating Entities of materials furnished or work performed under this contract. Member Agency and its Participating Entities shall reasonably notify Vendor Partner of any claim for which it may be liable under this paragraph.

Piggy Back Contracts: In the event a new Member Agency joins AEPA, the Member Agency may elect to award any and all existing contracts if permissible by their State laws.

Prevailing Wage: Where applicable, the Vendor Partner must comply with prevailing wage legislation in effect in the jurisdiction of the awarding AEPA Member Agency.

Pricing: AEPA has identified and stipulated the type of bid and the pricing methodologies that are to be utilized to price and submit bid or proposal prices. The Vendor Partner agrees that the cost for any item bid or offered on this contract will be uniform for all states and that any differences in pricing are due to state-specific installation and labor costs, AEPA Member Agency's Administrative Fee, or other approved reasons. The Respondent must provide their pricing as requested utilizing the various pricing methodologies specified. **The Respondent/Vendor Partner must agree that they will not offer or provide a better price to any individual entities or cooperatives with equal or lesser volume than that through AEPA**. Please note the following that relates to pricing:

1. **Primary Pricing Strategies:** All Respondents will be required to submit "Primary Pricing" in the form of either "Catalog Pricing" or "Line-Item Pricing" or a combination of these two pricing strategies, or Proposal (RFP) pricing as defined in Part B, solicitation specifications. Respondents are also encouraged to offer OPTIONAL pricing strategies including "Hot List" and "Volume Discounts".
    a. **Catalog Pricing:** Catalog pricing is utilized when the products and/or services solicited are clearly identified with set and specific characteristics, attributes, and configurations that are

identifiable as a stand-alone single unit and can be listed and priced as a single unit with options that can be added to enhance and/or improve its operation and functionality. The Respondent offers a fixed discount(s) off the retail price, catalog price, published price, or list price. The discounts may be for the entire commercially available catalog, for specific products, product lines, manufacturers, or category of products as determined by the Respondent and in conformity with the scope of the solicitation.

i. **Discounts:** Discount offers must clearly identify the percent of discount to apply to a commercially available catalog, manufacturer, manufacturer's suggested retail price (MSRP), retail, or nationally published price lists. Respondents shall identify and stipulate if the discounts apply to the entire catalog/price list, specific product lines, manufacturers, and/or categories of products. Respondents shall agree that there will be no reduction in discount(s) during the term of the contract.

ii. **New Catalogs/Price Changes**: New catalogs and corresponding nationally published price lists may be submitted throughout the term of the contract and shall be submitted to the AEPA Category Committee for review prior to release to all AEPA Member Agencies. Prices may change based on manufacturer's price changes, newly published pricing, or price lists, but the original discount bid shall remain firm for the duration of the contract. New catalogs/products must conform to the scope of the solicitation.

iii. **Core List:** In a Catalog Priced solicitation, a category (i.e. office supplies) may include a "core list" which contains a selection of the most commonly used products/services with the expectation that a deeper discount would be bid for these items. If a new catalog and price list are published during the contract term, the original discounts shall be applied to the newly published prices to establish the AEPA price for these core items.

iv. **Product Addition/Discontinuation**: New products, within the same scope of work, may be added at the established percentage discounts at any time. Discontinued products may be dropped at any time during the year. In the event a Core item is discontinued by the manufacturer during the term of the contract, Vendor Partner is required to add a functionally equivalent substitute at the same discount structure.

b. **Line-Item Pricing:** Line-item pricing is utilized when products and/or services that are broken down in detail by element, component, product categories, product type, and each product and/or service is presented as an individual item which needs to be combined with other items to make up a final project or solution. The Respondent offers firm pricing for specific line items in response to this bid; a project's cost is derived by the Vendor Partner preparing and providing a quote based on the project's terms, conditions, and requirements based on the line item pricing provided in the bid. The information provided in this bid for each item includes: Product Category, Product Description, Manufacturer, Manufacturer SKU, Vendor SKU, Unit of Measure, Item List Price, AEPA Bid Price.

i. **Fixed prices:** Prices bid shall be firm until each anniversary date of the contract, unless there is an occurrence of one or more economic price adjustment contingencies outlined in the bid. Fixed price offers shall include prices for any and all items.

ii. **Routine Price Adjustments (Without Economic Price Adjustment):** Vendors may request adjustments to the prices by submitting a fully documented written request to the AEPA Category Committee Chairperson. The request must specifically detail and document the cause and/or reason for price changes and include any supporting documentation (manufacturer's letter, indexes, etc.). All price changes require approval by the AEPA Category Committee and Member Agencies.

iii. **Unpredictable Economic Price Adjustment:** If economic price adjustment contingencies occur, Vendor Partner may submit a fully documented request (manufacturer's letter, indexes, etc.) for a price adjustment to AEPA Category Committee for review and approval by the committee and the AEPA Member Agencies. The documentation must substantiate the cause and/or reason for the

requested price increase and demonstrate that it was unpredictable at the time of bid submittal and/or contract renewal and out of the Vendor Partner's control. Pricing will take effect thirty (30) days after approval and acceptance.

iv. **New Products/Services:** Vendor Partner may submit new products or technologies that are within the original scope of work for the bid, to be added to the contract pending review and approval of the AEPA Category Committee. Requests should be submitted to the AEPA Category Committee for review and written approval.

c. **Automated System for Pricing (ASP)**: The method consisting of an ASP and/or software application (e.g. RSMeans) that is self-contained and consists of a turn-key solution that includes a complete line-item listing of all of the products, supplies, materials, equipment, services, accessories and options with their description, specifications, terms, conditions and associated pricing for each item, sub-assemblies and/or assemblies. The Bidder provides a percent of discount or fixed multiplier/factor to be applied to total project cost to allow for individual state conditions and requirements and to arrive at the AEPA price.

d. **RSMeans (Construction Related Bids only)**: It is important for Vendor Partners to breakout all costs (quantity and price) of all items listed under RSMeans or an Alternative Pricing method. This includes all quoted items not on the approved AEPA bid submittal. The following are minimum requirements for using RSMeans for quoting projects to AEPA Member Agencies:

i. The Contractors must use the current year and standard cost data. Only the following cost data titles will be excepted:
   a. Building Construction Cost Data Book
   b. Facilities Construction Cost Data
   c. Facilities Maintenance & Repair Cost Data
   d. Site Work & Landscape Cost Data Book

ii. All work proposed under RSMeans must use RSMeans format, even if subcontractors are used.

iii. An RSMeans spreadsheet must be submitted to substantiate the quote given to the AEPA Member Agency. The spreadsheet columns must reveal the full RSMeans number and a sufficient amount of the description. This also applies to change orders.

iv. Pricing must be done by Location codes. National Average will not be allowed. To choose the "closest" location code, the first three (3) numbers of the zip code will be used to determine the city location index in the AEPA Member Agency State.

v. The AEPA contract holder factor, bonding cost, AEPA discount, and taxes if applicable must be shown as separate line items at the bottom of the RSMeans spreadsheet. This information can be shown on a separate summary sheet. The summary sheet must start with the RSMeans spreadsheet total and show the detail for each of the items stated above. This detail will be provided to that AEPA State Agency and the AEPA Buyer as required.

vi. All change orders which list items covered by RSMeans must be supported by an RSMeans spreadsheet.

e. **Alternative Method of Costing**: This method covers any product and/or service not covered by catalog pricing, published price list, line-item price list, automated system for pricing, or is a product and/or service due to the projects or applications specifications, conditions and /or requirements that need to be custom-designed, developed, manufactured and/or produced to meet the requirements of an individual, project or sole source. The alternative pricing is calculated as follows:

i. The Bidder must prepare, issue and receive three written quotes from available suppliers and select the supplier that offers the products and services that meet the stipulated requirements and specifications, offers the best value, and the most cost-effective solution.

ii. All quotes must be made available upon request.

iii. The Bidder must indicate the percent of overhead and /or markup as part of their

response to be added to these costs to obtain the normal and customary retail price.

iv. The AEPA price is calculated by taking the product and services to cost to the Contractor plus the indicated percent of profit/overhead to equal the normal and customary retail price. The Contractor will then subtract the approved AEPA discount to obtain the AEPA price. Example: item cost $1,000; percent of profit/overhead of 20% equals retail price of $1,200; less the AEPA discount of 10% or $120 equals the AEPA price of $1,080.

2. **Secondary Pricing Methods (Catalog based solicitations only, see Part B for category designation):** Respondents are required to offer Customized Price Lists (Catalog solicitations ONLY) and encouraged to offer Hot Lists and Volume Discounts as follows:
   a. **Customized Price List:** Respondents are required to offer customized price lists to Participating Entities for items within the Vendor Partner's Commercially Available Catalog for Catalog solicitations ONLY (not pertinent to Line Item Bids). Customized price lists shall be allowed under the following conditions:
      i. Items within the Vendor Partner's Commercially Available Catalog may be included on the customized price list providing they are not already on the Core Item list.
      ii. Items are to be determined by the Participating Entity; Vendor Partner may object to up to ten (10) of the suggested items proposed by the customer and must offer substitutes until an agreement of the customized list is reached.
      iii. Items on the customized price list shall be sold with an additional discount (deeper than what was originally bid on the non-core or catalog discount)
      iv. Items may not include special order or customized service products unless agreed to by the Vendor Partner.
   b. **Hot List Pricing:** Respondents are invited, at their option, to offer a selection of products/services, defined as a Hot List, at greater discounts than those listed in the standard catalog or core list discounts. Special, time-limited reductions are permissible under the following conditions: The price reduction is available to all AEPA Member Agencies equally. The price reduction is for a specific period, no less than thirty (30) days. May be used to discount and liquidate close-out and discontinued products/services as long as those items are clearly labeled as such. The original price for products/services is not exceeded after the time limit. The AEPA Category Committee and all AEPA Member Agencies shall be notified of any special or time-limited price reduction. New prices must be on record fifteen (15) days prior to any offer of the new prices being proposed or offered to AEPA Member Agencies and Participating Entities. Pricing for all Hot List items must be updated on the Vendor Partner's online catalog and submitted to all AEPA Member Agencies in an electronic format that can be posted to websites, emailed, and shared with Participating Entities/Buyers.
   c. **Volume Price Discounts:** Respondents are encouraged to offer additional pricing discounts that may be offered for a group of agencies in a local geographic area that desire to combine requirements (one- time purchase or annual spend), i.e. local city, county, school district(s), etc. and/or for large one time purchases. Additional volume price discounts are permissible under the following conditions: Discounts should be tiered and based on spend ranges as established by the Bidder on the Pricing Forms. Volume determination shall be determined between the Vendor Partner and the individual Buyers on a case-by-case basis. All additional discounts are to be offered equally to all AEPA Member Agencies and Participating Entities and be based on the Volume Price Discounts originally bid providing the same or similar volume commitment, specific needs, terms and conditions, a similar time frame, seasonal considerations and provided the same manufacturer support is available to the Vendor Partner.

Prime Vendor Partner: For the purpose of this solicitation, a Vendor Partner will be considered a prime Vendor Partner and not a Subcontractor. Any Vendor Partner paid directly by the AEPA Member Agency or Participating Entity is a prime Vendor Partner; a Vendor Partner pays a Subcontractor. Prime Vendor Partners using Subcontractors are responsible for all actions of its Subcontractors.

Procurement Code: All Respondents/Vendor Partners must make themselves aware of and comply with all federal, state, and local statutes and regulations.

Products and Services

1. **Product Line:** If applicable, contracts will be awarded to Respondents able to provide their complete product line(s) of commodities, supplies, equipment, software, and services that meet the scope of work and specifications of this solicitation. Respondents with a published, priced catalog may submit their entire catalog; AEPA reserves the right to select or reject products within the catalog for recommendation without having to award all the contents.
2. **Serial Numbers:** Offers must be for equipment on which the original manufacturer's serial number has not been altered in any way.
3. **Current Products:** All offers shall be for commodities, supplies, equipment, supplies, and software in current production; meet or exceed commercial and industry standards; and marketed and provided nationally to the general public and/or educational/governmental agencies.
4. **Construction Products and/or Services:** Are associated with building, erecting, altering, repairing, installing or demolishing in the ordinary course of business any: (1) road, highway, bridge, parking area or related project; (2) building, stadium or other structure; (3) airport, subway or similar facility; (4) park, trail, athletic field, golf course or similar facility; (5) dam, reservoir, canal, ditch or similar facility; (6) sewage or water treatment facility, power generating plant, pump station, natural gas compressing station or similar facility; (7) radio, television or other tower; (8) shaft, tunnel or other mining appurtenance; (9) electrical wiring, plumbing or plumbing fixture, gas piping, gas appliances or water conditioners; (10) air conditioning conduit, heating or other similar mechanical work; or similar work, structures or installations; (11) leveling or clearing land; (12) excavating earth; (13) drilling, wells of any type, including seismographic shot holes or core drilling; and similar work, structures or installations.
5. **Services:** Are defined as the furnishing of labor, time, or effort by a Vendor Partner not involving the delivery of a specific tangible product other than reports and other materials which are merely incidental to the required performance.
6. **Professional Services:** Services relating to architects, archeologists, engineers, surveyors, landscape architects, medical arts practitioners, scientists, management and systems analysts, certified public accountants, registered public accountants, lawyers, psychologists, planners, researchers, educational specialist, construction managers and other persons or businesses providing similar professional services, which may be designated as part of this solicitation.
7. **Peripheral & Optional Items:** Respondents can include various peripheral products, equipment, accessories, services, deliverables, and related items that are associated with and function with the primary offering. Optional equipment or products may be added to the contract during the term of the contract. AEPA reserves the right to accept or reject such offerings under the following conditions: the enhancement is recommended by AEPA and approved by the Member Agency; the option is priced at a discount similar to other options; and the option is an enhancement to the unit.
8. **Descriptive Literature and Brand Names:** All offers are to include a complete set of the manufacturer's descriptive literature regarding the commodities, supplies, materials, equipment, and software offered. Brand names, trade names, and/or catalog numbers used in the solicitation will be intended to describe and identify the type, level, and quality of products, equipment, and software being requested.
9. **Discontinued Products:** If a product or model is discontinued by the manufacturer, Vendor Partner may substitute a new product or model if the replacement product meets or exceeds the specifications and performance of the discontinued model and if the discount is the same or greater than the discontinued model.
10. **Product Specifications:** This solicitation is designed to enable a Respondent to satisfy a requirement for a commodity, supply, material, equipment, software, process, or service. A specification may be expressed as a standard, a part of a standard, or independent of a standard; by specifying a manufacturer's brand and model. No specification is intended to unnecessarily limit competition by eliminating items capable of satisfactorily and/or meeting the actual needs of the procurement. When a brand name product is specified and is only available for a single source,

Respondents are encouraged to offer alternative products that they believe to adhere to and comply materially, functionally, and operationally equal to or better than the brand name product specified. **Any Respondent believing a specification is unnecessarily restrictive, shall indicate such in the form of a question during the solicitation process and prior to solicitation due date.** The fact that a manufacturer or supplier chooses not to produce or supply the commodity, supply, material, equipment, software, or services to meet these specifications will not be considered sufficient cause to adjudge these specifications as restrictive. If the Respondent deviates from these specifications, reasons must be stated for such deviation and state why, in their opinion, the commodity, supply, material, equipment, software, or services they bid will render equivalent reliability, coverage, performance, and/or service. Failure to detail all such deviations may comprise sufficient grounds for rejection of the entire offer.

11. **Quality:** Unless otherwise modified elsewhere in this solicitation, Vendor Partner warrants the commodities, supplies, materials, equipment, and services delivered as stipulated in the Buyer's purchase order/contract, shall be: of quality to pass without objection in the industry and professional standards normally associated with them; fit for the intended purpose(s) for which they are used; of even kind, quantity and quality within each unit and among all units, within the variations permitted by the contract; adequately offered, presented, delivered, accomplished and complete as the contract may require; and conform to the written promises and/or oral affirmations of fact made by Vendor Partner.

Product Information, Catalogs, and Price Lists: Respondents shall include an electronic copy of the latest edition of the commercially available catalog and price lists that the discount will be applied to with the response. Throughout the term of the contract, Vendor Partner(s) shall furnish all AEPA Member Agencies and their Participating Entities with copies of approved commercially available catalogs and price lists in the format desired (electronic, paper, online shopping cart, etc.).

Progress Payments: Progress payments are allowed on purchases for goods and services under the following conditions: The Buyer and the Vendor Partner agree to the terms of the progress payments prior to issuing a purchase order; the purchase order describes the amounts to be paid and the date of payment; the Buyer has a satisfactory method of verifying progress described in writing in a letter or on the purchase order; that payments will only be made when actual goods and/or services are verified/received; and that any such payments be made in full compliance of Buyer's local board rules and any and all other applicable state rules and regulations.

Protests: Under this public procurement and AEPA's Solicitation, any Respondent who is aggrieved in connection with this procurement, can file a protest in accordance with (1) AEPA's Solicitation Document; (2) AEPA's Policies and Procedures; and (3) AEPA Member Agency's State Procurement Code and Board Policies. Venue for any and all legal actions regarding or arising out of the transactions covered herein shall be solely in the court of jurisdiction located in the state and county of the AEPA Member Agency and will govern any resulting transactions.

1. **Procurement Phases:** AEPA's solicitation process is broken down into three (3) phases. Any Respondent who is aggrieved in connection with any of the three (3) procurement/solicitation phases listed below and/or any functions or activities associated with each shall file their protest with the AEPA representative indicated below.
    a. **Solicitation Due Date:** The preparation and contents of the solicitation, its terms, conditions, and specifications, the notification, distribution of solicitation documents and addendums (date published through the solicitation due date and time).
    b. **AEPA Approval:** The receiving, opening, recording, evaluating, recommending, and approving Respondents to be considered for AEPA approval and/or actions relating to contract renewal and extension. (Date received and opened through the date of individual contract award and future renewals).
    c. **Contract Award:** The awarding, implementing, and administering of resulting contracts and the disclosure of confidential data. (Date individual contracts awarded by AEPA Member Agencies or 120 days from AEPA approval).

2. **Protest contents:** Protests shall be in writing and must be filed with the appropriate AEPA represented below. A protest must include:
    a. The name, address and telephone number of the protester;
    b. The original signature of the protester or its representative;
    c. Identification of the procurement function and/or contract activity with the solicitation or the contract number;
    d. A detailed statement of the factual grounds or legal basis for the protest;
    e. Supporting exhibits, evidence or documents to substantiate any claim unless not available within the filing time, in which case, the expected availability date shall be indicated; and
    f. The form of relief requested.
3. **Protest Submittal:** Protester shall submit the solicitation protest in accordance with the requirements of the above three (3) procurement functions immediately or within ten (10) days of the date the protester knows or should have known the basis of the protest per the following:
    a. Solicitation Due Date: Knows or should have known the basis of the protest upon the solicitation due date or ten (10) days after the due date, send a protest to Solicitation Question Coordinator (bid-committee@aepacoop.org).
    a. AEPA Approval: Knows or should have known the basis of the protest upon notification from AEPA of the solicitation category approval, send a protest to AEPA President (protests@aepacoop.org).
    b. Contract Award: Knows or should have known the basis of the protest or ten days after the notification from the AEPA Member Agency award, send a protest to Individual AEPA Member Agency; see AEPA Member Agency information sheet.
4. **Protest Resolution:** Protest shall be resolved, in accordance with AEPA's Board Policies, Procedures and/or the appropriate state statutes where the AEPA Member resides. AEPA intends that all solicitation protest decisions from the point a solicitation has been published through contract approval or rejection will be resolved by AEPA. Protests concerning contract award by AEPA Member Agencies will be resolved by the respective AEPA Member Agency.
5. **Protest Costs:** The losing party to the protest shall be responsible for the reasonable and justifiable costs of the protest. The protest costs shall be based on the costs and expenses incurred by the AEPA and its Member Agencies, including but not limited to staff salaries, attorneys' fees, hearing, reproduction, transcription, and travel costs.

Provisions Required by Law: By submitting a response to this solicitation, Respondents are acknowledging they have conducted and performed the required research to make themselves aware and knowledgeable of all federal, state and local laws/statutes that are referenced herein, may pertain to and/or govern the procurement activities and transactions covered by this solicitation. These provisions of law and any clause required by law that is associated with and relates to this solicitation and any resulting contract will be read and enforced as though it were included herein.

Public Purchase: An easy-to-use platform that provides Respondents with the automatic notification of open solicitations, automatic notification of answered questions and issued addenda, and a way to electronically submit an organization's solicitation response. All changes, updates, uploads, and downloads are time-stamped and logged as part of the solicitation process.

Public Record: All offers submitted to this invitation shall become the property of the AEPA and will become a matter of public record, available for review, subsequent to the solicitation due date. Offers may be viewed, by appointment only, at the Oakland Schools, 2111 Pontiac Lake Road, Waterford, MI 48329, under the supervision of the AEPA Executive Director or his designee, from 8:30 a.m. to 3:30 p.m., Monday through Friday. Within fifteen days, the Solicitation Receipt Summary Report will be posted to the AEPA website (www.aepacoop.org).

Questions: Inquiries and questions related to this solicitation, must be submitted online in Public Purchase per solicitation and be submitted as follows:

1. From the time the solicitation is published until the deadline for questions for Respondents, questions should be submitted online via Public Purchase.

2. From the time solicitations are opened but prior to the approval of the contract by AEPA, questions should be submitted to bid-committee@aepacoop.org.
3. After notification of AEPA contract approval, questions should be submitted via email to questions@aepacoop.org.
4. Once a contract has been awarded by an individual AEPA Member Agency any inquiries and questions relating to contract implementation, execution, transactions, and/or concerns/issues occurring within that state should be addressed to the individual AEPA Member Agency.

Reporting: Vendor Partners are required to submit quarterly detailed sales reports to all AEPA Member Agencies. Access to reports will be granted after contract approval. If there are no sales, $0 reports are required.

Right to Assurance: Whenever one party to this contract in good faith has reason to question the other party's intent to perform, he/she may demand that the other party give written assurance of this intent to perform. In the event that a demand is made, and no written assurance is given within ten (10) days, the demanding party may treat this failure as an anticipatory repudiation of the contract.

Right to Request Additional Information: AEPA, and its respective representatives, reserves the right to request any additional information during the procurement process that might be deemed necessary to better understand the submitted solicitation response including, but not limited to, clarifying questions. Respondents may be requested to submit such answers in writing but will not be allowed to change or alter their offer.

Safety Measures: Vendor Partners shall take all necessary precautions for the safety of employees on the worksite, and shall erect and properly maintain at all times, as required by job conditions and progress of the work, all necessary safeguards for the protection of the workers and public. They shall post danger-warning signs against the hazards created by their operation and work in progress. Proper precautions shall be taken pursuant to state law and standard construction practices in order to protect workers, the general public, and existing structures from injury or damage.

Safety Standards: All items supplied on this contract shall comply with the current applicable Occupational Safety and Health Standards, the National Electric Code, and the National Fire Protection Association Standards.

Severability: The provisions of this contract are severable to the extent that any provision or application held to be invalid shall not affect any other provision or application of the contract that may remain in effect without the invalid provision or application.

Substance Use & Conduct: All Vendor Partners and Subcontractors must adhere to the local substance (alcohol, drug, smoking, etc.) and conduct (dress code, language, parking, etc.) policies while on AEPA Member Agencies and Participating Entities premises.

State Agency: means any department, commission, council, board, committee, institution, legislative body, agency, government corporation, educational institution, or official of the executive, the legislative or judicial branch of the government of this state.

Survival: All applicable software license agreements, warranties, or service agreements that were entered into between Vendor Partner and Buyer under the terms and conditions of the Contract shall survive the expiration or termination of the Contract. All purchase orders issued and accepted by Vendor Partner shall survive expiration or termination of the Contract.

Tare: If the Vendor Partner requires the Buyer to pay for shipping, the weight of the empty container and any material used for packing shall be of the lightest weight practical for safe delivery of the contents.

Taxes: Different jurisdictions taxing authorities have different tax laws, rules, regulations, and processes, therefore, prices offered will not include applicable federal, state, and local taxes. All applicable taxes must be listed as a separate item on all cost proposals, invoices.

Term of Contract and Extensions: The initial term of the contract shall be for up to fifteen (15) months and will commence on the date as indicated by each Participating Member Agency on the Acceptance of Solicitation and Contract Award (Form B). The contract shall continue in accordance with the dates stipulated in the solicitation and Timeline schedule located in Part A of this solicitation unless terminated, canceled, or extended. By mutual written agreement, the contract may be extended for three additional 12-month periods, ending on the last day of February. AEPA may choose to recommend the contract extension. If so recommended, an individual Member Agency may choose, at their sole discretion, to extend the contract. In the event AEPA does not recommend or approve a contract extension, a Member Agency reserves the right to offer month-by-month extensions not to exceed six (6) months until a new contract is awarded by that Member Agency.

Termination by Non-Approval of AEPA: AEPA Member Agencies on annual basis assess, evaluate and review existing AEPA vendors to determine if the organization as a whole desire to extend its approval of those vendors. If an existing AEPA vendor's approval is not extended for an additional term, the AEPA Member Agencies can not extend the dis-approved vendor's contract. (See Term of Contract and Extensions)

Termination by AEPA Member Agency: An AEPA Member Agency may cancel any contract secured by the solicitation without any further obligation if any person significantly involved in initiating, negotiating, securing, drafting, or creating the contract on behalf of the AEPA Member Agency is or becomes, at any time while the contract or any extensions of the contract is in effect, an employee of, or a consultant to any other party to this contract with respect to the subject matter of the contract. Such cancellation shall be effective when the parties to this contract receive written notice from the AEPA Member Agency unless the notice specifies a later time. Cancellation by one AEPA Member Agency does not require other Agencies to cancel their contracts.

Termination for Convenience: AEPA Member Agency reserves the right to immediately terminate this contract, without penalty or recourse, in whole or in part, if the AEPA Member Agency determines that termination is in the best interest of Participating Entities. The Vendor Partner, after receipt of a "Notice of Termination," shall not accept any new orders after the termination date specified in the notice. Any termination shall not affect projects that are in progress at the time the cancellation is received by the AEPA Member Agency. Vendor Partner shall be entitled to receive just and equitable compensation in accordance with applicable contract pricing for work in progress, work completed, and materials accepted before the effective date of the cancellation. The Vendor Partner will not be reimbursed for any anticipated profit. The AEPA Member Agency reserves the right to cancel, or suspend the use thereof, any contract resulting from this SOLICITATION if the Vendor Partner files for bankruptcy protection or is acquired by an independent third party. Vendor Partner may cancel this contract upon written notice to the AEPA Member Agency prior to the intended termination date (or on the yearly anniversary of the solicitation). Any termination shall not affect projects that are in progress at the time the cancellation is received by the AEPA Member Agency.

Termination for Default: If either party is in default under this contract, it shall have an opportunity to cure the default within the time indicated (ten business days in most states) after it is given written notice of default by the other party, specifying the nature of the default. Upon receipt of the notice of default, the defaulting party shall have ten business days to provide a satisfactory response to the AEPA Member Agency. Failure on the part of the defaulting party to adequately address all issues of concern may result in contract termination. If the default is not cured within the time specified in the notice of default, the non-defaulting party shall have the right, in addition to all other remedies at law or equity, to immediately terminate this contract. Failure to complain of any action, non-action or default under this Agreement shall not constitute a waiver of any of the parties' rights

hereunder. The AEPA Member Agency reserves the right to terminate this contract, or any part hereof, for cause in the event of any default by the Vendor Partner, or if the Vendor Partner fails to comply with any contract terms and conditions, or fails to provide the AEPA Member Agency, upon request, with adequate assurances of future performance. In the event of termination for cause, the AEPA Member Agency shall not be liable to the Vendor Partner for any amount for supplies or services not accepted, and the Vendor Partner shall be liable to the AEPA Member Agency or any Participating Entity for any and all rights and remedies provided by law. If it is determined that the AEPA Member Agency improperly terminated this contract for default, such termination shall be deemed a termination for convenience. The AEPA Member Agency will issue written notice to the Vendor Partner for acting or failing to act in any of the following:

1. The Vendor Partner provides material that does not meet the specifications of the contract;
2. The Vendor Partner fails to adequately perform the services set forth in the specifications of the contract;
3. The Vendor Partner fails to complete the work required or to furnish the materials required within a reasonable amount of time;
4. The Vendor Partner fails to make progress in the performance of the contract and/or gives the AEPA Member Agency reason to believe that the Vendor Partner will not or cannot perform to the requirements of the contract;
2. The Vendor Partner fails to extend lower pricing that has been offered to another customer or cooperative that have equal or lesser volume.
3. The Vendor Partner fails to observe any of the terms and conditions of the contract;
4. The Vendor Partner fails to follow the established procedure for purchase orders, invoices, and receipt of funds as stipulated by the AEPA Member Agency.

Termination for Non-Appropriation: Any individual Buyer's procurement/contract covered by this solicitation and executed in accordance with the resulting contract may be terminated if insufficient appropriations and/or authorizations do not exist due to changes in state or federal law, or because of a court order, or because of insufficient appropriations made available to the Buyer's governing board and/or it State Legislature. Such termination will be effected by sending fifteen (15) days written notice to the Vendor Partner. The Buyer's decision as to whether sufficient appropriations and authorizations are available shall be accepted by the Vendor Partner and shall be final.

Title and Risk of Loss: The title and risk of loss of material or service shall not pass to the Buyer purchasing the material or services until it receives the material or service at the point of delivery unless otherwise provided within this document.

Trade-in Equipment: Equipment for trade-in shall be dismantled by the Vendor Partner and removed at its expense. The conditions of the trade-in equipment at the time it is turned over to the Vendor Partner shall be the same as when the original agreement was made, except as affected by normal wear and tear from use between the time of the solicitation and the trade-in. Values placed on trade-in products are between the Buyer purchasing the new unit and the Vendor Partner.

Type of Solicitation: Due to the various types, kinds and levels of products and services solicited by AEPA in its solicitations; the various pricing methodologies and/or methods utilized and offered to price the various products and services offered; and the type of contracts that results from any one of AEPA's solicitations, AEPA has established the following two (2) types of bids.

1. Catalog Bid: A catalog bid is utilized when the products and /or services solicited are clearly identified with set and specific characteristics, attributes, and configurations that are identifiable as a stand-alone single unit and can be listed and priced as a single unit with options that can be added to enhance and/or improve its operation and functionality. The Bidder offers a fixed discount(s) off retail price or prices in a Commercially Available Catalog. The discounts may be for the entire Catalog for specific products, product lines, manufacturers, or category of products as determined by the Bidder. See the Pricing section for detailed information on Catalog pricing.
2. Line Item Bid: A Line-item bid is utilized when the products and services solicited cannot be identified or listed as a single unit; consists of a number of different variable and configurations, it

is necessary to identify the specific project or application; the end product or solution is made of individually priced elements or components and the end product's or solutions' cost is derived by the Vendor Partner specially prepared and providing a quote based on the project's terms, conditions and requirements. See the Pricing section for detailed information on Line-Item pricing.

3. AEPA also uses Request for Proposal (RFP) for certain service/goods categories in accordance with AEPA bylaws and procedures.

Vendor Partner: Respondent who has been approved and awarded a contract for the delivery of construction, tangible personal property, supplies, or services in response to this solicitation.

Vendor Partner Contact: Vendor Partner will designate one individual who will represent them to the AEPA, its AEPA Member Agencies during the contract period. This contact person will correspond with each AEPA Member Agency for technical assistance, problems, or questions that may arise. If other staff, distributors and/or independent Vendor Partners will be performing the sales or support functions for different geographical areas (states), Vendor Partner shall include instructions and contact information that can be distributed to AEPA Member Agencies upon approval of this bid.

Warranty: Vendor Partner warrants that all commodities, supplies, materials, equipment, software, and service delivered under this contract shall conform to the specifications of this contract. All items should carry a warranty equal to the intended life cycle or a minimum 12-month manufacturer's warranty that includes parts and labor unless otherwise specified and agreed to. The manufacturer has the primary responsibility to honor a manufacturer's warranty; a distributor or dealer agrees to assist the purchaser to reach a solution in a dispute with the manufacturer over a warranty's terms. Any extended manufacturer's warranty will be passed on to the Buyer. For example, if a voice board has a three-year warranty, but the board is in a turnkey system that has a one-year warranty, the voice board's three-year warranty must be honored by the manufacturer and the Vendor Partner. All extended warranties must be passed on, without exception. If upon discovery, the Vendor Partner charges a Buyer for a replacement part that the Vendor Partner actually received at no cost under a warranty, the Vendor Partner will rebate the amount billed and the Buyer reserves the right to cancel the contract.

Invitation for Bid
AEPA IFB #021-D
ROOFING & BUILDING ENVELOPE SERVICES

A Bid Bond In The Amount of $25,000 Is Required For This IFB.

PART B – Technical SPECIFICATIONS

TABLE OF CONTENTS

1. IFB Goal

1.1 The general goal of this IFB is to establish multi-state purchasing contracts for qualified agencies of the participating AEPA agencies located in 29 member states. AEPA state organizations serve all levels of public educational institutions, governmental agencies and non- profit organizations that have been authorized to utilize AEPA contracts accepted and awarded by the individual state agency to assist their clients in the individual states to deal with and overcome ongoing problems and issues their buildings encounter due to the heat and assault of the sun, variations of temperatures, snow, ice and moisture. Research has shown that these conditions can result in failure if ongoing inspections and regular preventative maintenance aren't done. Likewise, due to the limited financial resources available to these clients, they are asking the various AEPA state agencies to acquire and establish cooperative purchasing contracts with highly qualified and experienced providers who have a proven track record in providing energy-efficient, cost-effective solutions that will perform within their environments, while meeting their individual facility's envelope needs.

1.2 It is also known that by offering roofing systems and protective coating manufacturers/distributors a multi-state opportunity to provide and install their products, they are highly motivated to partner with the best-certified local contractors and have the ability to control the correct installation of their products and embrace the responsibility and the incentive to guarantee the end results of products and services offered. By utilizing their own crews and/or independent, licensed, authorized contractors/installers who have cooperative arrangements with them to perform work on their behalf, it creates a consistent, effective and sound procurement option for AEPA member clients.

2. IFB Intent

2.1 The intent of this solicitation is to award a contract to provide for the construction products and services required to meet the current and future needs of the qualified AEPA customers as understood and anticipated by the responding Offeror, as well as relating to the Manufacturer Terms, Conditions, Specifications and the line item material pricing requests outlined in this IFB. The contracted services are to meet or exceed all federal, state and industry standards and requirements as defined, established, set forth and adopted by individual governmental agencies and/or industry organizations.

2.2 It is further the intent of the specifications and expectations enumerated within this IFB to allow AEPA member agencies and their clients to have as an option the highest quality, most complete and comprehensive product line of roofing and coating system products and services available to meet their individual facility's needs and requirements, at cooperative purchasing volume pricing.

2.3 It is further the intent of the AEPA to award a contract to the best responsible Offeror(s) meeting specifications and qualifications, provided the response to the IFB has been submitted in accordance with the requirements of these procurement documents. The AEPA shall have the right to waive any informality or irregularity in any response to the IFB received and to accept the IFB which, in the group's judgment, is in its own best interest. We also reserve the right to advertise for a new IFB where the acceptance, rejection, waiving, or re-award will be based on, but not necessarily limited to, the following:

2.3.1 Adherence to all requirements of the IFB specifications as proposed and defined by industry standards.

2.3.2 Knowledge of the Offeror in terms of past performance of the products and services to include marketplace success in the AEPA states.

2.3.3 Ability to service and meet or exceed the current and future needs or requirements of the AEPA member agency's clients geographically located in all 29 states as defined.

2.3.4 Completeness of information provided in response to this IFB.

2.3.5 Financial standing, capacity and bond rating of the Offeror. Offeror must provide both performance and payment bond as required by each member state.

2.3.6 Nature and extent of company data furnished upon request of AEPA.

2.3.7 Evaluation of the quality of products and services offered and proven track record.

2.3.8 Overall ability of products and services offered to meet, comply and fulfill the needs and requirements of individual clients within the 29 states. Installer should have at least (3) three years of experience. Installation of the roofing systems should be by an installer that is trained and certified by the roofing manufacturer for the type of system and the warranty required.

2.3.9 Value added programs and services beyond the traditional services offered that enhances and/or improves the client's ability to manage and maintain their facility envelopes throughout their life cycle.

2.3.10 Ability, past performance, track record and commitment to the research and development of new technologies and products to better meet owners' needs.

2.3.11 Offeror's ability to demonstrate a proven track record and past performance relating to their staff's and subcontractors' workmanship, delivery timelines, warranty work, performance over time, customers service history and satisfaction, industry awards and acknowledgements.

2.3.12 General reputation and experience of the Offeror and its delivery network from a national perspective.

2.3.13 Offeror's ability to demonstrate its new product development and testing, and the utilization of the latest technology to assess, evaluate, track and allow individual facility owners to establish and maintain adequate record keeping relating to their facility's envelopes and their operational status and conditions.

2.3.14 Offeror's ability to demonstrate its current and future ability, capacity, resources and willingness to market, promote and provide the individual facility owners within the 29 AEPA member states with the type and level of assistance and support required for AEPA member agencies to offer their clients a complete and comprehensive cooperative procurement option.

2.3.15 Offeror's ability to communicate and demonstrate it and its distribution network understanding of the types, level and quality of products and services requested, the expectations and various current and future needs and requirements of the AEPA member agency's clients.

2.3.16 Offeror's willingness, ability, commitment and track record in developing and operating within a collaborative and cooperative marketplace and entering an AEPA type business relationship.

2.3.17 Offeror's ability to provide one or more roofing systems, products and/or services to individual clients within the AEPA state participating.

2.3.18 Offeror's ability to certify that it carries an adequate level of professional liability insurance to protect itself and AEPA and its member agency.

2.4 A response to this IFB is an offer and commitment to contract with participating AEPA agencies based upon the terms, conditions, scope of work and specifications contained and referenced in this bid. The awarded Vendor will be required to deliver supplies, materials and services proposed in its response and accepted by AEPA to all qualified AEPA member agency clients as applicable to the award and in accordance with the pricing established for each state and the specific terms, conditions, construction regulations and other applicable laws that are applicable to each state.

3. Scope of Bid

3.1 AEPA and its member agencies are seeking nationally recognized, highly qualified and experienced roofing and protective coating manufacturers/distributors/contractors to provide asbestos-free systems, products, materials and related services. The Offeror must demonstrate through their response to this solicitation that they possess the necessary qualifications, background, experience, resources and capacity required to acquire, deliver and perform the required supplies, materials, equipment and labor to all 29 member states necessary to:

3.1.1 Consult and work with individual AEPA member agency's educational institutions and other public entities (owners) to assess and evaluate their existing facilities envelope systems' current functional and operational conditions based on the most recent adopted federal, state and industry standards and specifications. Based on the assessment and evaluation results, assist the owner in determining the required action(s) needed and develop a complete and comprehensive program to maintain, repair, restore and/or replace those roofing systems and facility envelopes to a good and sound operational condition.

3.1.2 Assist and work with individual owners on an ongoing basis to design, develop or update existing short-term and long-term facility construction and maintenance plans to allow

them to properly manage their facility assets. To implement a comprehensive construction and maintenance program to maintain existing facilities, replace those systems that are no longer maintainable and to suggest energy-efficient, well-performing and cost-effective products and systems for new facility construction.

3.1.3 Provide and make available the necessary resources, products and services necessary for the owner to establish and conduct a roofing and/or facility envelope project that addresses the four (4) basic ingredients of an energy-efficient, high-quality, cost-effective and functional facility envelop system.

3.1.3.1 Due diligence in assessing and developing the available options with associated costs required to bring and maintain an existing facility's envelope into good condition.

3.1.3.2 Careful planning and selecting of a replacement system when required to ensure that it is the most energy-efficient and cost-effective system that will meet or exceed the requirements of the project.

3.1.3.3 When applicable, investigate and take into consideration new technologies, existing products and materials that will add to and improve energy efficiency and decrease absorption of solar energy and the deterioration due to climatic conditions of the area.

3.1.3.4 Make available the necessary resources required to allow owners to conduct and perform ongoing inspections, have warranty work done and perform regular preventative maintenance to ensure proper care of the facility's envelope through its stated life cycle.

3.1.3.5 When applicable provide masonry repair and/or solutions performed by the offeror or a qualified trained subcontractor in accordance with unit pricing offered.

3.1.4 Acquire the supplies, materials and services required to prepare the individual project site, to install a new envelope, to maintain and repair an existing envelope and tear off, remove and install a new envelope.

3.1.4.1 Scan existing roofs using the latest technology to determine the amount and location of wet or substandard roofing components to be removed.

3.1.5 The owners found that within the 29 AEPA states, maintenance, operations and construction departments possess different levels of resources and capabilities to deal with facility envelope projects. AEPA is seeking Offerors who have and can make available a variety of options relating to:

3.1.5.1 Offering several different high-quality and cost-effective manufacturers' products, materials and complete systems to meet facility and climatic conditions that exist within the 29 AEPA states.

3.1.5.2 Offering a turn-key (single source) solution that includes, but is not limited to, providing all necessary design and engineering work; obtaining and delivering the required supplies, materials and equipment; and performing all of the services to prepare the site, install and complete the project's scope of work and deliver a finished product that meets or exceeds federal, state and industry standards while meeting the project's requirements.

3.1.5.3 Offering those owners who possess the necessary resources and capacity to perform their own project the needed supplies, materials, equipment; technical support and assistance to properly install and complete the project; inspect and certify that the installed solution meets or exceeds industry standards and manufacturer's specifications and have a manufacturer's warranty issued for the completed project.

3.1.5.4 Offering a complete and comprehensive ongoing maintenance and repair program that ensures the owner that timely and regular inspections are done; and when required, warranty and/or repairs are completed to keep and maintain the facility's envelope in good condition throughout its lifecycle. Said maintenance contract is not required to maintain the project warranty. A maintenance contract may be included as

part of a bid but can in no way affect the warranty provisions of a contract. The maintenance contract must be with an entity which is certified to do warranty work on the roof system that is installed.

3.1.5.5 Offering and providing the owner's staff with the training, technical support, maintenance instructions, supplies and equipment for them to properly maintain and protect their investment throughout its lifecycle.

3.1.5.6 Offering any variation of the above noted options that will allow the owner to meet its various facility envelope needs as they arise during the term of this contract.

3.2 The Offeror should note that AEPA Member Agencies prefer providers/contractors that can provide and perform the scope of work as indicated in items 3.1 above as a turn-key solution. However, it is also recognized that there are providers/contractors that specialize in only providing and installing one specific roofing system or protective coating identified herein. Responses can be made for any of the major roofing and/or protective coating systems requested herein, as long as the provider possesses the resources, ability and capacity to provide all necessary labor, supplies, materials, equipment and support services required to assess and evaluate current site conditions; design a solution, obtain and/or manufacture solution, deliver and install the solution; provide a manufacturer's warranty covering the solution installed; and provide ongoing maintenance and repair and support services as needed. Under the terms of this solicitation, AEPA reserves the right to accept or reject Offeror's responses that do not offer a comprehensive turn-key solution for the complete scope of work indicated above.

3.3 Member Agency shall have the right to reject the participation of any personnel of Contractor in the performance of the services if, in relation to the work assigned to them, the Member Agency deems such personnel to lack the skill, experience and expertise required to perform the services or if Member Agency considers their performance to be substandard or otherwise detrimental to the proper completion of the services. Contractor will advise Member Agency promptly of any change in the project manager or other key personnel assigned to the performance of the services.

3.4 Contractor acknowledges that the safety of the Member Agency's students, employees, officials and guests is of the utmost importance. Contractor will endeavor to ensure that its officers, employees, agents, representatives, and consultants will take no action that would jeopardize the safety of the Member Agency's students, employees, officials, or guests. The Member Agency reserves the right to require Contractor's officers, employees, agents, representatives and consultants to wear identification and always stay in designated work areas while on the Member Agency's property. The Member Agency shall have the right to effect the immediate removal of any person associated in any way with Contractor from Member Agency property for failure to wear identification, for being outside a designated work area, for fraternizing with or engaging in any improper behavior directed toward or in the vicinity of students, employees, officials, or guests of the Member Agency or for any other good cause.

3.5 Contractor shall perform or cause to be performed with the appropriate state or federal criminal investigation entity a criminal background check of any personnel that will be performing the services within the proximity of minors. Contractor shall notify the Member Agency of any proposed employee who has been convicted, pled guilty or pled "no contest" to a criminal offense, and the Member Agency reserves the right to reject the proposed employee with a criminal background. No person shall be employed by Contractor who has been found guilty of any of the criminal offenses enumerated the appropriate state governing documents without prior approval of the Member Agency.

4. Anticipated AEPA Member Agency Participation

State	Participate?	Other States Member Sells In	Est. 1st Year Purchase Volume	% Growth for Year 2-4
California		AZ, NV		
Colorado	Yes		$ 50,000	2%
Connecticut	Yes	MA, ME, NH, NY, RI, VT	$ 50,000	5%
Florida	Yes	AL, GA	$ 86,988	0%
Indiana	Yes		$ 115,000	5%
Iowa	No	IL, SD		
Kansas	Yes	OK	$ 1,500,000	1%
Kentucky	Yes	AL, GA, LA, MS, NC, SC, TN, WV	$ 2,000,000	5%
Massachusetts	No			
Michigan	Yes		$ 69,522	5%
Minnesota	Yes	SD	$ 1,450,000	30%
Missouri		AR, IL, LA, SD		
Montana	Yes	ID	$ 50,000	5%
Nebraska	Yes		$ 160,000	5%
New Jersey	Yes		$ 1,000,000	3%
New Mexico				
North Dakota	Yes		$ 100,000	15%
Ohio	Yes		$ 9,000,000	5%
Oregon				
Pennsylvania	Yes	DE, HA, MD, NY,	$ 40,000,000	10%
Texas	Yes		$ 500,000	3%
Virginia	Yes		$ 500,000	3-5%
Washington	Yes	AK, ID	$ 7,000,000	5%
West Virginia	Yes		$ 1,500,000	2%
Wisconsin				
Wyoming	Yes	SD, UT		2%
Total			**$63,131,510**	

Please note that individual AEPA state agencies that have indicated above they would like to participate in any contract awarded under this solicitation does not guarantee or mean that the individual AEPA Member Agency will enter into a contract with any AEPA approved vendor. Each AEPA Member Agency will make that determination after reviewing vendor responses and AEPA's recommendation for acceptance and bid award. The AEPA Member Agency's contracting decision shall be final.

The above information relating to the estimated/projected volume for the first year for this solicitation is provided based on submittals from its members. AEPA Member Agencies anticipate that purchase volumes will increase in contract years two through four (2-4). This information is provided as an aid to offerors in preparing bids only. It is not to be considered a guarantee of volume under this IFB. The successful vendor's discount and pricing schedule shall apply regardless of the volume of business under the contract.

Voluntary Pre-Bid Conference Call

AEPA will host a voluntary pre-bid conference call on August 12, 2020, for any interested Bidders or potential Bidders. The conference call times are set in the following schedule for each of the four contiguous United States time zones. No pre-registration will be required. Recording of the conference call will be posted on the AEPA Website.

Voluntary Pre-Bid Conference Call Schedule for all categories

IFB	Eastern	Central	Mountain	Pacific
AEPA 021-A Athletic Facility Lighting	10:00 AM	9:00 AM	8:00 AM	7:00 AM
AEPA 021-B Hardwood & Synthetic Flooring	10:30 AM	9:30 AM	8:30 AM	7:30 AM
AEPA 021-C Digital Multi-Function Devices, Printers, Document Lifecycle Accessories & Services	11:00 AM	10:00 AM	9:00 AM	8:00 AM
AEPA 021-D Roofing & Building Envelope Services	11:30 AM	10:30AM	9:30 AM	8:30 AM
AEPA 021-E HVAC & Mechanical Products and Solutions	12:00 PM	11:00 AM	10:00 AM	9:00 AM
AEPA 021-F Disaster Recovery Services	12:30 PM	11:30 AM	10:30 AM	9:30 AM
AEPA 021-G Security & Safety Solutions	1:00 PM	12:00 PM	11:00AM	10:00AM

Conference Call Meeting Link:
https://us02web.zoom.us/j/85033448242?pwd=VERNWnBwd3JGNy9SK09aZ3JOVk4xQT09
Conference Call Meeting ID: 850 3344 8242
Conference Call Password: 2siNB5

5. Glossary of Terms

AA: Aluminum Association, Inc. (The) (703) 358-2960 www.aluminum.org

AAMA: American Architectural Manufacturers Association (847) 303-5664 www.aamanet.org.

Abbreviations and Acronyms for Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the organizations responsible for the standards and regulations in the following list. Names, telephone numbers, and websites are subject to change and are believed to be accurate and up to date as of the date of the Contract Documents.

ACI: American Concrete Institute (248) 848-3700 www.aci-int.org

AEPA Member Agency: A state cooperative purchasing agency recognized by AEPA to represent a specified state in contracting activities associated with this solicitation.

AEPA Member Agency Client (Facility Owner): A public educational institution or other qualifying agency authorized to use the contracts of an AEPA Member Agency.

AGCA: Associated General Contractors of America (The) (703) 548-3118 www.agc.org

AI: AsphaltInstItute(859)822-4960 www.asphaltinstitute.org

AIA: American Institute of Architects (The) (800) 242-3837 www.aia.org

ANSI: American National Standards Institute (202) 293-8020 www.ansi.org

API: American Petroleum Institute (202) 682-8000 www.api.org

Approved: Defined as conveying authorization or action on the Contractor's submittals, applications, and/or Requests. The owner shall identify and establish within the contract documents who its designated representative is and the parameters of the individual's duties, responsibilities and authority.

Architectural Barriers Act: (ABA) (202) 272-0080: Accessibility Guidelines for Buildings and Facilities available from Access Board www.access-board.gov

ARMA: Asphalt Roofing Manufacturers Association (202) 207-0917 www.asphaltroofing.org

ASCE: American Society of Civil Engineers (800) 548-2723 www.asce.org

ASTM: American Society for Testing and Materials International (610) 832-9585 www.astm.org

AWCI: Association of the Wall and Ceiling Industry International (703) 534-8300 www.awci.org

BIA: Brick Industry Association (The) (703) 620-0010 www.bia.org

CIMA: Cellulose Insulation Manufacturers Association (888) 881-2462 www.cellulose.org

CISCA: Ceilings and Interior Systems Construction Association (630) 584-1919 www.cisca.org

Contracting AEPA Member Agency: An AEPA Member Agency that enters into a contract as a result of this solicitation.

Contracting Agency/Client: Refer to AEPA Member Agency's Client (Facility Owner)

Contractor: An awardee of any contract from the Prime Contractor, to do work for a Member Agency's Client.

Cost Proposal: Documents prepared based on the awarded Offeror's response to this solicitation, issued to a AEPA Member Agency's client in response to a request to have the Contractor inspect, assess, obtain, deliver, install, renovate, replace, maintain and/or provide technical/support services relating to facilities' roofing system or envelope with all of the associated terms, conditions, specifications and costs.

CPSC: Consumer Product Safety Commission

CSI: Construction Specifications Institute (The) (800) 689-2900 www.csinet.org

CSPE: Chlorosulfonated Polyethylene, also known as Hypalon

Drawings and Specifications: Architect/engineer blueprints/project drawings and project manuals laying out, describing and specifying the project's scope of work and performance standards and requirements.

EJMA: Expansion Joint Manufacturers Association, Inc. (914) 332-0040 www.ejma.org

EPA: Environmental Protection Agency (800) 887-6063 www.epa.gov

Federal Regulations and Codes – Title 40 – National emission standards for hazardous materials and asbestos abatement projects, worker protection, asbestos-containing materials in schools.

Federal Requirements: Contractor agrees, when working on any federally assisted projects with more than Twenty Thousand Dollars ($20,000) in labor costs, to comply with the Contract Work Hours and Safety Standards Act, the Davis-Bacon Act (Section 29, CFR Part 5), the Copeland "Anti-Kickback" Act, and the Equal Opportunity Employment requirements of Executive Order 11375. In such projects, the Contractor agrees to post wage rates at the work site and comply with all reporting requirements. The Contractor shall provide AEPA with a copy of any required report filed. In addition, to comply with the Copeland Act, the contractor must keep records for three (3) years and allow the federal grantor agency access to these records upon demand. All federally assisted contracts to AEPA Members that exceed Ten Thousand Dollars ($10,000) may be terminated by the federal grantee for non-compliance by the Contractor. In projects that are not federally funded, Offeror must agree to meet any federal, state or local requirements, as necessary. In addition, if compliance with the federal regulations increases the contract costs beyond the agreed upon costs in this solicitation, the additional costs may only apply to the portion of the work paid by the federal grantee. On all other projects, the prices must agree with this contract.

FRSA: Florida Roofing, Sheet Metal and Air Conditioning Contractors Association, Inc. (407) 671-3772 www.floridaroof.com

FSA: Fluid Sealing Association (610) 971-4850 www.fluidsealing.com

Furnish: Supply and deliver to project site, ready for unloading, unpacking, assembly, installation, and similar operations.

GA: Gypsum Association (202) 289-5440 www.gypsum.org

GS: Green Seal (202) 872-6400 www.greenseal.org

GSI: Geosynthetic Institute (formerly GRI) (610) 522-8440 www.geosynthetic-institute.org

HEPA: High-efficiency particulate air

HPVA: Hardwood, Plywood and Veneer Association (703) 435-2900 www.hpva.org

HVAC System: Heating, ventilation, and air conditioning

ICRI: International Concrete Repair Institute, Inc. (847) 827-0830 www.icri.org

Individual Project Contract Documents: Should consist of the construction contract, conditions of the contract, drawings (if required) and specifications defining the scope of work, product specifications, delivery timelines, etc. These should be issued prior to signing the construction contract and/or prior to issuing a purchase order.

Install: Operations at project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, and protecting, cleaning, and similar operations.

International Conference of Building Officials Uniform Building Code: A set of guidelines, standards and best practices relating to the various trades involved in building construction.

ISO: International Organization for Standardization www.iso.ch Available from ANSI (202) 293-8020 www.ansi.org

ISO 9000/9001: International Standards Organization Quality Standards

Manufacturer's Representative: Dealers, distributors or installers submitting a response to this solicitation for products requested herein or as a manufacturer's representative must include with their response documented evidence from and between them and the product's/system's manufacturer certifying that the Offeror is a bona fide manufacturer's agent for the specific products and services proposed; the Offeror is qualified and experienced to assess existing conditions, develop and submit manufacturer acceptable solutions for the product lines offered; the product/system manufacturer will agree and commit to support, review and issue their guarantee on the work performed and products provided; and the Offeror has a good track record with their product. Should the Offeror fail to satisfactorily fulfill any obligations established as a result of completing a project using their products/systems under contract as a result of this solicitation, the manufacturer will either assume and discharge such obligations or provide for their competent assumption by one or more bona fide representatives for the balance of the obligations.

Material Costs: Costs for materials, including taxes, delivery, handling, storage, and waste.

MHIA: Material Handling Industry of America (800) 345-1815 www.mhia.org

MTVR: Moisture Vapor Transmission Rate

NAAMM: National Association of Architectural Metal Manufacturers (312) 332-0405 www.naamm.org

NACE: National Association of Corrosion Engineers International) (281) 228-6200 www.nace.org

NAIMA: North American Insulation Manufacturers Association (703) 684-0084,

NBFU: National Board of Fire Underwriters

NCMA: National Concrete Masonry Association (703) 713-1900 w ww.ncma.org\

NRCA: National Roofing Contractors Association (800) 323-9545 www.nrca.net

NFPA: National Fire Protection Association (800) 344-3555

NLGA: National Lumber Grades Authority (604) 524-2393

NSSGA: National Stone, Sand & Gravel Association (800) 342-1415 www.nsf.org

NTRMA: National Tile Roofing Manufacturers Association (Now TRI)

PDI: Plumbing & Drainage Institute (800) 589-8956 www.pdionline.org

Offeror/Contractor: Individual or entity submitting a response to this solicitation and awarded a contract to provide goods and services to AEPA Members and their clients based on the specifications and requirements of this solicitation.

Offeror's Price List: For the purpose of this solicitation, the Offeror's price lists shall consist of the cost evaluation submittal form and the manufacturer's/distributor's published price lists that clearly state and identify all products and services offered with the Offeror's discount to be applied to each to determine the AEPA price, and, because the scope of works covered by this solicitation may require site preparation or other non-roofing construction related products and services to be provided as part of completing the proposed project, the AEPA Members have selected "R.S.

Means", a nationally accepted costing method, to be used to determine the cost of those items not covered by the established published price list and/or the alternative method of costing.

Owner's Representative: An individual identified by the client/owner as contact person for the individual project. Owner's representative has authority to make decisions and to authorize any actions as defined for the project.

Performance Specification: Specifies the subsequent performance of completed construction work rather than prescribing how the work shall be constructed and installed.

Prime Contractor: Any firm, business and/or individual(s) who submits a response to this IFB and is awarded a contract. The Contractor will be considered a prime contractor to AEPA, and AEPA will not enter into any agreements with a subcontractor. Any Contractor paid directly by AEPA Member Agency's clients is a prime contractor. Any subcontractor performing under this IFB is contracted and paid by the prime contractor. Prime contractors using subcontractors must be willing, able and capable of obtaining, supervising and being responsible for any subcontractors required to perform and/or provide products and services offered herein.

Project Site: Space available for performing construction activities. The extent of project site is shown on drawings and may or may not be identical with the description of the land on which project is to be completed.

Provide: Furnish and install, complete and ready for the intended use.

Qualifications: Includes any and all skills, knowledge, capacities, capabilities, experience, financial stability, available human and physical resources, historical background, past and present performance, properly licensed to perform and provide products within the 29 AEPA member states, and the proposed products/services meet or exceed specifications specified herein and proposed pricing complies with state and local requirements. The evaluation of a respondent's qualifications shall be done in accordance with the criteria set forth herein, and the most recent edition of any relevant regulation, standard, document or code that shall be in effect. Where conflict among the requirements or with these specifications exists, the most stringent requirement shall be utilized.

Regulations: Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the work.

SDI: Steel Deck Institute (847) 458-4647 www.sdi.org

Shop Drawings: Drawings made for production purposes by persons other than a designer.

SMACNA: Sheet Metal and Air Conditioning Contractors National Association

Specifications: Written descriptions of work, materials, or equipment that complements the construction drawings.

SPFA: Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division) (800) 523-6154 www.sprayfoam.org **SPRI**: Single Ply Roofing Industry (781) 647-7026 www.spri.org

State Wage Rates: Some of the AEPA member's states have and require the Contractors pay prevailing wage rates as required by their respective state labor statutes. It is the Offeror's responsibility to be acquainted with those state's Department of Labor rules, regulations, procedures and requirements relating to state wage rates, and to comply with state and federal regulations regarding payment of wages on public projects. The prime contractor and any subcontractors shall pay all tradesmen and laborers employed on the site of the project, unconditionally and not less often than once a week, and without subsequent unlawful deduction or rebate on any account, the full amounts accrued at time of payment, computed at wage rates not less than those stated in the advertised specifications.

Subassembly: A prefabricated ceiling, roof, roofing system or similar combination of roofing components.

SWA: Structural Welding Code

SWRI: Sealant, Waterproofing, & Restoration Institute (816) 472-7974 www.swrionline.org

TRI: Tile Roofing Institute (Formerly: RTI - Roof Tile Institute) (312) 670-4177 www.tileroofing.org
UBC: Uniform Building Codes
UL: Underwriters Laboratories Inc. (877) 854-3577 www.ul.com
Unit Cost: An average cost per unit calculated by dividing total costs of the item by the measured quantity of units. Unit costs may include material costs, labor costs, plant and equipment costs, overhead costs, job and operating costs and profit. The content of the unit costs must be made clear. An item may have separate unit costs for materials and labor.
Unit Price: Similar to a unit cost, but usually consisting of all direct costs and some or all indirect costs.
USGBC: U.S. Green Building Council (202) 828-7422 www.usgbc.org
Value Engineering: Comparison and economic evaluation of alternate construction methods for a given project.
Waste Construction Material: That is extra to the actual net quantity required by the work, but that is nevertheless required by or used in performing the work or is somehow lost as a result of doing the work, and therefore contributes to the material cost.

6. Special Terms and Conditions

BID BOND: A bid bond is required to be submitted in the amount of $25,000.00. It will be returned within 10 days of the award to vendors not receiving the award.

6.1 By responding to this solicitation, the Offeror agrees to and will be solely responsible for doing the research to ascertain that its solutions offered and provided meet or exceed all federal, state, local and industry regulations, rules, standards and/or requirements.

6.2 Applicability of industry standards: unless the individual project contract documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the project's contract documents to the extent referenced. Such standards are made a part of this bid by reference provided under the definitions above.

6.2.1 Publication Dates: Comply with standards in effect as of date of the individual project's contract documents unless otherwise indicated.

6.2.2 The Contractor and any subcontractors engaged in a construction project covered by this bid must be familiar with industry standards applicable to the construction activity being performed. Copies of applicable standards are not provided as part of this solicitation and, when copies of standards are needed to perform a required construction activity, they may be directly obtained from the governing agency, organization or publication source as identified herein.

6.3 Where abbreviations and acronyms for standards and regulations are used in this bid or within individual project's specifications or other contract documents, they shall indicate the recognized name of the organizations/agencies responsible for the standards and regulations and the full names, telephone numbers and websites.

6.4 The successful Offeror must abide by and ensure that any subcontractor abides by all applicable federal, state, and local laws, codes, and ordinances governing any area(s) in which any products and/or services covered by this solicitation are rendered and must have all required permits, licenses, agreements, tariffs, bonding and insurance required by same. No claims for additional payment will be approved for changes required to comply with any such requirements once a project contract is executed.

6.5 The successful Offeror must provide AEPA Members and their clients the benefit of all general price reductions extended to its other customers at any time during the original term of this contract or any extension thereof. Likewise, the Contractor may during the annual contract renewal process, submit to AEPA any additional products, technologies

or services that may become available, fall under and are covered by this solicitation's scope of work and relate to the contracted award. The R.S. Means costs shall be adjusted when the new updates (usually January 1st of each year) become available or R.S. Means issues an update based on current market conditions. During the annual contact renewal process, the Contractor may submit and request price adjustments to their adopted published price lists. However it should be noted, due to the fact that raw materials that are required to produce and install the roofing and protective coating systems covered by this solicitation are natural resource (petroleum/chemical/metal) based and the current economic conditions and the market place for these resources are in a volatile state, AEPA will allow the Contractor to request a price adjustment outside the normal contract renewal process only if it can be demonstrated and documented that on a national basis the natural resources (raw materials) utilized have experienced a significant cost increase since the contract was awarded or the last contract renewal was approved. Such events will be industry wide and cause all related product prices to be affected. All price adjustment requests must be in writing and submitted to the oversight committee chairman who has been designated by AEPA for that solicitation/category. The oversight committee will perform the due diligence required, make a recommendation and submit it to the AEPA board of directors for their approval/disapproval. If approved, the Contractor will provide each AEPA Member Agency with revised price lists with which they will assist the Contractor in notifying its clients. In the event of a decrease in the prevailing contract price, the oversight committee may approve the change and it will become effective immediately upon notification.

6.6 If the Offeror intends to utilize independent agents/distributors, subcontractors and/or third- party agents to perform and/or provide any part of the products and services offered herein, the Offeror must ensure that prices from these parties are in accordance with the terms, conditions and pricing schedules submitted and approved by AEPA. Installer should have at least (3) three years of experience. Installation of the roofing systems should be by an installer that is trained and certified by the roofing manufacturer for the type of system and the warranty required.

6.7 If additional and optional products and services are proposed, they must be clearly identified and must include detailed descriptions, and specifications with their associated costs.

6.8 New products and services must only be offered and made available under this solicitation when they have been extensively tested and proven to be reliable, suitable and appropriate for use on, within, and around educational facilities and other public facilities. Detailed information, results and performance history shall be provided to allow the Members and their clients to make an informed decision on accepting the product/service as part of this contract and for use in individual client's projects.

6.9 The Offeror must have the resources necessary to offer and deliver suitable and comprehensive training and maintenance support programs to assist and allow AEPA Members' clients within the 29 AEPA states to properly and successfully inspect, monitor, maintain and manage their roofing and/or envelope systems throughout its stated life cycle. The programs offered must be appropriate for the client's staff that will be responsible for overseeing work being performed and monitoring the roofing and envelope systems' conditions on an ongoing basis. The Offeror must provide documentation that proves these resources and programs do exist and have been successfully delivered on a national basis. If there are associated costs, terms, and conditions and stipulations relating to these programs offered, they must be clearly identified and stated within the Offeror's response.

6.10 In its' response, the Offeror must demonstrate and present paperwork to communicate its ability to adhere to, utilize and ensure the following:

6.10.1 For any state who is awarded a contract related to this IFB, the Contractor must hold and maintain a current and valid contractor's/trade license(s), as required, that allows the Contractor to supervise others, to construct, alter, repair, add to, subtract from, improve, move, wreck, or demolish any roofing/envelope system and/or related structures covered by this solicitation and found within those states that have such requirements.

6.10.2 The Contractor will ensure that all individuals, firms or subcontractors being used to perform or supervise work performed and materials and equipment installed under this contract are highly qualified, experienced and hold a current contractor's/trade license(s), as may be required by those individual AEPA states. All subcontractors to be used for each individual project performed under this contract must be clearly identified and a list submitted with the name, address, trade or type of work, contractor's/trade license number, if applicable, and their federal ID number.

6.10.3 Upon request by an AEPA Member Agency's local agency/client/owner, the Contractor shall schedule a meeting with the owner to ascertain and develop a comprehensive and complete understanding of the scope of work being requested by the owner. The Contractor shall conduct and perform a site investigation to learn existing site conditions in order to provide additional products and/or services necessary to properly complete the project in accordance with the project's contract documents.

6.10.4 Any contract awarded as a result of this IFB between an individual owner and the Contractor shall include of a detailed scope of work (a description of the work to be performed and the products to be provided by the Contractor) and will include all specifications, drawings, Contractor's cost proposal and other project related documents. All applicable industry standards, manufacturer's instructions and requirements, technical specifications and general conditions, federal, state and local codes around which the contract is made shall be included, as if they were physically part of the contract documents.

6.10.5 A schedule for performance of work that can be met without planned overtime is the responsibility of the Contractor, unless otherwise requested by the owner.

6.10.6 Terms for what constitutes project completion and acceptance by the owner and taking title to work finished must be clearly identified, described and agreed upon and made a part of any contract. If any part of the construction requires the owner to assume control before the completion, this needs to be defined with all the agreed-to terms, conditions and stipulations. Both parties must agree on the definition of what constitutes total acceptance of the project, and it must be accomplished before final payment is made to the Contractor. Upon completion of the project, the worksite will be left in a condition equal to or better than before the project.

6.10.7 Upon completion of work related to any contract awarded as a result of this solicitation, the Contractor will present the owner with all documents necessary to close out the project, including, but not limited to, instructions/procedures on conducting regular inspections and performing preventative maintenance, complete sets of "as built" project drawings if applicable, and executed manufacturer's warranty documents for the roofing or envelope coating system installed.

6.10.8 Up to and beyond the normal manufacturer's warranty, the prime contractor must warrant the work performed, and materials and related fixtures involved with the installation for a period of not less than two (2) years from date of acceptance against defects and poor workmanship. Even if final payment is made, if the owner discovers an unfinished and/or improperly installed component, defect or poor workmanship that

should have been identified and noted during the final inspection, the Contractor will complete the work in a timely fashion at no additional cost to the owner.

6.10.9 The Contractor/manufacturer may offer extended warranties or maintenance agreements at an additional cost to the owners. The maintenance contract must be offered as a separate line item.

6.10.10 The Offeror must provide written response specifications. By responding to the "Indefinite Quantity Unit Price Schedule", you are agreeing to the specifications as written for each item to which you provide a price. If the specification asks for some supporting document, describe where it can be found in your submission. If you meet the specification in an alternative fashion, describe how your solution is equal or better. If a procedure is involved, write "agreed" or describe the procedure you will follow that will result in the ability to accomplish the work in an equal or superior fashion. You must respond to all items, either by pricing or by reference. If you will not or are not able to accomplish a given specification, indicate a NO BID for that specification. Only items priced can be invoiced to an agency member.

6.11 If the Offeror submitting a response to this solicitation to provide roofing systems, envelope protective coatings and other related products and services is not a manufacturer, then the Offeror must provide written documentation between it and the manufacturer indicating that the product manufacturer(s), for the purpose of this solicitation, is aware of the Offeror's intent to offer the manufacturer's product line(s) and both parties are jointly committed to and are aware of the terms, conditions and stipulations in this IFB. The manufacturer acknowledges and agrees to and will stand behind the Offeror's/Contractor's performance under this IFB. Failure of nonmanufacturers to submit enough documentation to meet this requirement can result in a non-responsive bid.

6.12 Retainage and progress payments: NOTE: Different AEPA states have their own statutes, rules and/or regulations that govern the way in which retainage and progress payments are handled and, therefore, the prime contractor must make themselves aware of and comply with all such rules, regulations and laws. If such laws are not in place that differ from these below, those rules and statutes will be read as if included.

6.12.1 Ten percent (10%) of all contract payments shall be retained by the project's owner as insurance of proper performance of the prime contractor. Prime contractor agrees to identify the amount to be retained on project invoices for each progress payment.

6.12.2 When fifty percent (50%) of the work for any contract related to this solicitation is completed, one half of the amount retained shall be paid to the prime contractor if the prime contractor requests payment and if the owner is satisfied with the progress of the work.

6.12.3 After the work is fifty percent (50%) completed, no more than five percent (5%) of the amount of any subsequent progress payment shall be retained, unless the owner of the project makes a written determination indicating and justifying satisfactory progress has not being made, at which point the ten percent (10%) retention shall be reinstated.

6.12.4 If the project owner and the prime contractor agree to a substitute security, the agreement must be in full compliance with state law. If a substitute security is agreed to, the prime contractor must provide the owner with a signed and acknowledged waiver of any right or power of the obligor to set off any claim against AEPA, the member, or the prime contractor in relationship to the security assigned.

6.13 Progress payments may be made by the client/owner to the prime contractor based on a duly certified and approved estimate of work performed during the preceding agreed to period. The prime contractor must agree to pay any subcontractors or material suppliers within seven (7) days of their receipt of the progress payment, unless otherwise agreed on in writing between the parties. The prime contractor agrees to

follow all the relevant rules for progress payments; any interest due a subcontractor or material supplier will be paid by the prime contractor as authorized by law. A prime contractor may elect to invoice the entire work upon completion and pay subcontractors in a timely fashion as agreed between the subcontractors and the prime contractor.

6.13.1 The prime contractor, as part of its project's cost proposal, will provide a detailed schedule of values that breaks out by line item the products being provided and the services being performed with their associated costs.

6.13.2 Based on the project's timetable for completion, the prime contractor and project's owner will agree upon a schedule of progress payments based on identifiable milestones.

6.14 Performance Bonding requirements: Each of the AEPA member states have their own bonding requirements. It is the Offeror's responsibility to be acquainted with each state's rules, regulations, procedures and requirements relating to payment and performance bonds, and to comply with each state's requirements.

6.15 Contract Between AEPA Members Agency's clients and the Offeror: In any contract between the Offeror and an AEPA Member Agency's client for roofing and protective coating products, systems and/or services covered by this solicitation, the terms and conditions listed herein will prevail. A contract between the Offeror and the client for any construction services shall contain all elements of an industry standard agreement. If applicable, the following items may need to be addressed:

a. Work to be performed by the AEPA Member's client must be clearly described and the Offeror's standards and criteria for acceptance stated.
b. The condition of the site prior to start of work by the Offeror will be established and agreed upon prior to contract execution.
c. The party responsible for obtaining, providing and paying for temporary utility service, such as power, water and other related items, must be identified and agreed upon by all parties prior to contract execution.
d. The space and/or facilities directly under, above, in, near or involved as part of the client's/owner's project that may be impacted by the work. The contractor, prior to the start of any work, shall communicate and advise the project owner's or other property owner's representative of any hazardous conditions, possible interruptions and/or interference with their associated implications that may occur during their day-to-day operations, and to allow the facility owner's/other property owner's representative to understand, address, voice any concerns, resolve any issues and provide written acknowledgement and approval of such conditions and/or interruptions as they may exist or occur.
e. Access to the construction space will be limited to the way agreed upon by the parties.
f. When loading, unloading or operating equipment near an unprotected owner used area, the Contractor will keep an employee as a guard to prevent students and adults from entering.
g. Change orders are to be avoided, if possible, since they often indicate poor planning.
h. A mutually agreed upon system for establishing, communicating and approving changes must be identified and agreed to, including changes in scope and changes in compensation for the Contractor. Because of cost, safety and scheduling considerations, the ability to make field change orders needs to be permitted, and mutually agreed upon paperwork to document these changes, must be allowed. A change order that increases the contract amount in excess of Five Thousand Dollars ($5,000) or five percent (5%) of the contract amount, whichever is greater, must be approved, in writing, by the governing authority.

6.16 **Contract Between Owner, Buyer and Contractor:** An AEPA Member Agency may require an agreement between the AEPA Member Agency's client (Owner), AEPA Member Agency (Buyer) and the AEPA Contractor for the procurement of goods and services in the construction and professional services areas. Such agreement shall be signed by all parties and is utilized to communicate each party's role, duties, and responsibilities and the terms, conditions, specifications and timelines which will govern the individual project, and ascertain that the project is being conducted and performed in accordance of this IFB.

7. General Requirements

7.1 All roof systems must meet the regulatory requirements of the Uniform Building Code, all applicable state and local codes for public buildings, including, but not limited to, UL 790, Class A, and FM Class I, I-90 Fastening Standards. The prime contractor awarded a contract will comply with the latest, most stringent industry standard construction details published by the National Roofing Contractors Association's "**The NRCA Roofing and Waterproofing Manual**," 5th edition. (NRCA, 10255 W. Higgins road, Suite 600, Rosemont, IL 60018 || 847- 299-9070 || Fax 847-299-1183). Any deviations, such as the use of proprietary designs of the prime contractor or special construction for regional climatic conditions, must be identified in this solicitation and must be the prime contractor's best and most stringent assemblies. Except for roofs placed on temporary buildings, all designs related to this IFB shall be for systems with a life of 20 or more years. If the manufacturer will not warranty the design for 15 or more years, the design will not be placed on contract. The exception for this is a roof specifically designed for a 5-7-year period. The purpose for allowing a "Limited Facility Life Solution" is in the event a building is scheduled for demolition and total building replacement. The Vendor must indicate and reference this as a short term, limited life roofing system in the line item. Also, the Vendor must specifically define the warranty period as a line item or condition of this type of roof application. The overall goal and intent of this IFB effort is to furnish and install and repair the full envelope of **Roofing Related Services** as indicated on the specific and individual customer project drawings and to include as described herein. **The specifications herein are a general guide and minimum requirement to the scope of the type of projects desired by AEPA Member Agencies and their clients/owners.** Individual specifications may require additional and expanded services and construction to meet individual needs. The awarded vendor must anticipate those expanded services and allow for those services and materials to be a part of the bid response. The intent of this bid is to award a contract to provide for the construction to meet the current and future needs of the clients/owners of AEPA Member Agencies. The contracted services are to meet or exceed all industry standards and requirements as defined, established and set forth by accepted industry standards. The service and distribution area are to have the potential to serve the total geographic area of all 29 AEPA states as defined**. Consideration will be given in the award based on the completion and degree of information provided regarding available services and advantages, as well as applicable parts of the Vendor Information and questionnaire. An opportunity to submit value added and expanded services as it applies to this IFB will be given positive consideration in the award selection**. **Consideration will be given regarding technological advances to provide services beyond today's standard methods. The opportunity to indicate value added dimensions and technological advancement will be available in the questionnaire and line-item sections of this IFB.**

7.2 Over time, research and development by roofing manufacturers and roofing consultants' feedback on the performance of the various roofing systems found within the public marketplace have stated that over fifty percent of post-construction

problems in buildings can be attributed to roofing systems. It is often said that a building is as good as its roof. The heat and assault of the sun in much of the United States doom many roofs to early failure; in northern states, snow and cold weather can be just as damaging. Thousands of years of construction history have not resulted in a perfect roof; weather and time seem to doom roofs and, therefore, AEPA is seeking high-performing and well-tested roofing systems (products and materials) that have a proven track record for withstanding the above-noted conditions that can doom a roofing system to early failure.

Due to the above research and the past experience of AEPA Member Agencies and their clients/owners in dealing with roofing systems, they have determined that it is critical and essential to any contracts approved and awarded by its members under this IFB that the roofing systems', products' and materials' manufacturer(s) be willing and able to acknowledge, commit to and support the design of; product and material manufacturing and delivery; installation; final inspection of the solution provided; issuance of warranties and the maintaining of the roofing system throughout its stated lifecycle. It is also a known fact that when the manufacturer has such involvement, it ensures and results in AEPA Member Agencies and their clients receiving the most cost-effective pricing of the products and services, and the quality control and accountability of the end product meeting and exceeding the expectations and the needs of the clients is greater. The manufacturer ensures that the local roofing contractor/installer is highly qualified, factory trained and certified and has a proven track record with the products, materials and systems being installed.

7.3 Except for roofs placed on temporary buildings, all designs in this IFB shall be for systems with a life of 20 or more years. If the manufacturer will not warranty the design for 15 or more years, the design will not be placed on contract. Since most political subdivisions have the right to issue its own bid for roofing repair or restoration, AEPA is only interested in providing quality systems with a documented life cycle cost benefit when compared to standard low-cost roofing systems acquired through the traditional public bidding process. Local manufacturer's/Offeror's representatives, distributors and installers/subcontractors are encouraged to assist and support the Offeror's/Prime contractor's efforts to provide well- designed and high-quality solutions that will result in the very best roofing asset at competitive prices.

7.4 Some of the roofing projects covered by this solicitation may require asbestos abatement as part of the scope of work. The facility owner may acquire removal and disposal services directly from non-AEPA contractors or may request and require the AEPA prime contractor to include these abatement services as part of their proposed solution. The Offeror/Contractor must be willing and able to meet and comply with this type of request.

7.4.1 **Asbestos Removal**

7.4.1.1 On multi-employer worksites or worksites that have close proximity of property owners, the prime contractor shall inform other employers/owners of the nature of the work with asbestos and/or PACM (Presumed Asbestos Containing Material), of the existence of and requirements pertaining to regulated areas, and the measures taken to ensure that employees/individuals of such other employers/owners are not exposed to asbestos.

7.4.1.2 All Class I, II and III asbestos work shall be conducted within regulated areas. All other operations shall be conducted within a regulated area where airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, a PEL.

7.4.1.3 The regulated area shall be demarcated in any manner that minimizes the number of persons within the area and protects persons outside the area from exposure to airborne asbestos. Where critical barriers or negative pressure enclosures are used, they may demarcate the regulated area. Signs shall be provided and displayed following EPA, OSHA and state specific regulations.

7.4.1.4 All persons entering a regulated area where employees are required to wear respirators shall be supplied with a respirator. The prime contractor shall ensure that employees do not eat, drink, smoke, chew tobacco, candy, cough drops or gum, or apply cosmetics in the regulated area.

7.4.1.5 The prime contractor shall ensure that a "competent person" conducts an exposure assessment immediately before or at the initiation of the operation to ascertain expected exposures during that operation or workplace.

7.4.1.6 The prime contractor shall conduct daily monitoring that is representative of the exposure of each Class I or II work, unless a negative exposure assessment has been made for the entire operation. Periodic monitoring of all work where exposures are expected to exceed a PEL, at intervals enough to document the validity of the exposure prediction, shall be made.

7.4.1.7 The prime contractor shall use OSHA acceptable engineering controls and work practices in all operations for asbestos removal, regardless of the levels of exposure.

7.4.1.8 For removing roofing material containing ACM, the prime contractor shall ensure the material is removed in an intact state to the extent feasible. Wet methods shall be used to remove roofing materials that are not intact, or that will be rendered not intact during removal, unless such wet methods are not feasible or will create safety hazards. Cutting machines shall be continuously misted during use, unless a competent person determines that misting substantially decreases worker safety.

7.4.1.9 When removing built-up roofs with asbestos-containing roofing felts and an aggregate surface using a power roof cutter, all dust resulting from the cutting operation shall be collected by a HEPA dust collector or shall be HEPA vacuumed by vacuuming along the cut line. When removing built-up roofs with asbestos-containing roofing felts and a smooth surface using a power roof cutter, the dust resulting from the cutting operation shall be collected either by a HEPA dust collector or HEPA vacuuming along the cut line, or by gently sweeping and then carefully and completely wiping up the still-wet dust and debris left along the cut line.

7.4.1.10 Asbestos-containing material that has been removed from a roof shall not be dropped or thrown to the ground. Unless the material is carried or passed to the ground by hand, it shall be lowered to the ground via covered, dust-tight chute, crane or hoist. Any ACM that is not intact shall be lowered to the ground as soon as is practical, but in any event no later than the end of the work shift. While the material remains on the roof, it shall be kept wet, placed in an impermeable waste bag, or wrapped in plastic sheeting. Intact ACM shall be lowered to the ground as soon as is practical, but in any event no later than the end of the work shift.

7.4.1.11 Upon being lowered, unwrapped material shall be transferred to a closed receptacle in such manner to preclude the dispersion of dust. Roof level heating and ventilation air intake sources shall be isolated, or the ventilation system shall be shut down.

7.4.1.12 All asbestos-containing debris shall be removed from the work site and disposed of in a manner acceptable to all federal, state, and local regulatory requirements.

7.4.2 The Contractor will comply with all mandatory OSHA rules and regulations as listed and described in 29 CFR 1926.1101(Z).

7.4.3 The Contractor will ensure that all individual state and local permits are acquired and required documentation is prepared and submitted in a timely manner.

7.4.4 As part of the project's close-out documents, the Contractor will include the asbestos abatement final certification with the appropriate backup documentation.

7.5 The prime contractor must be especially committed to requiring all safety precautions be taken at every job site. [

7.6 Due to the cooperative purchasing aspect of this solicitation and the potential number of individual roofing projects that may occur at one time within the various AEPA states, AEPA has also determined that it must ascertain and ensure that the prime contractor does possess and can demonstrate its qualifications, background, experience, past and current performance track record, available resources and capacity to execute and carry out contracts with those AEPA Member State Agencies and their clients who desire to engage them to provide roofing and protective coating systems to their clients. To accomplish this task, AEPA is requiring the Offeror responding to this solicitation to complete the Offeror's Qualifications Form and submit the necessary background information and documentation to substantiate their responses. Offerors who fail to provide the information required on the Contractor's Qualifications Form or has failed to perform/complete past projects or is in default of warranty work or have been found guilty of violating state and/or local construction/labor codes, as judged by previous clients or AEPA, AEPA reserves the right to consider or not consider the Offeror's response as being responsive based on its own investigation and findings.

7.7 **Quality Control Issues**

7.7.1 For audit purposes, a copy of any contract(s)/agreement(s) between the Public agency and the prime contractor must be kept on file in the agency issuing the original P.O. It is the responsibility of the prime contractor to supply a signed copy of all contract(s)/agreement(s) in a timely fashion.

7.7.2 During work, the AEPA Member Agency and/or its client's representative may secure samples according to ASTM D140-88 of materials being used from containers/cartons at the job site and submit them to an independent laboratory for comparison to specified material.

7.7.2.1 Should test results prove that a material is not functionally equal to specified material, the prime contractor shall pay for all testing, and roofing materials/components installed and found not to comply with the specifications shall be removed and replaced at no change to the facility owner/client.

7.7.2.2 Should test results prove that materials tested were functionally equal to specified material, the prime contractor shall be notified of the results and costs associated to the testing shall be paid by the facility owner/client.

7.7.3 Upon completion of a roof renovation/replacement, the prime contractor shall have the manufacturer's representative/inspector perform and issue an inspection report indicating the solution has been installed in accordance with and meeting all the manufacturer's installation specifications and warranty requirements. Upon the roofing manufacturer acceptance of the job, they shall issue the mandatory two (2) year warranty and the fifteen (15)/twenty (20) year manufacturer's warranty to the facility owner/client in accordance with the terms and conditions of this solicitation and the project's contract. Once the project's close process has been completed, final payment will be made. The prime contractor shall, during the first, second and seventh year of this warranty, conduct an inspection of the installed solution, prepare and submit a written report of the installed solution's current condition and any concerns, warranty work and/or preventative maintenance that must be completed in order to keep the solution in good condition.

7.8 **Special OSHA Requirements**

7.8.1 The Contractor will use a fall protection program as described by OSHA. A copy of the plan to be used will be included with the Offeror's response.

7.8.2 The Contractor will provide, for each worksite in which the above plan will not be used, documents that are in compliance with 29 CFR 1926.502(k)(M)'s requirement that: "Employers engaged in leading edge work... who can demonstrate that it is infeasible or creates a greater hazard to use conventional fall protection systems must develop and follow a fall protection plan....This sample plan can be modified to be used for other work involving leading edge work." A copy of a sample plan to be used will be included with the bid. The sample plan may only be used at an actual job site with the same criteria as in the sample plan.

7.8.3 The Contractor shall be responsible for the development of a fire protection program to be followed throughout all phases of the construction, and shall provide for firefighting equipment, as necessary. Access to all available firefighting equipment shall always be maintained and shall be conspicuously located. All firefighting equipment shall be periodically inspected and maintained in operating condition. Defective equipment shall be immediately replaced.

7.8.4 All waste materials will be handled in compliance with OSHA 29 CPR 1926.252.

General Specifications

7.9 The Offeror/Contractor must provide all labor, materials, equipment and, if required, design services, project site inspection, preparation and services relating to obtaining, manufacturing, delivering and installing the various roofing and protective coating products, systems and services proposed in response to this solicitation. These services may be provided by the Offeror's own crews and staff or by subcontractors contracted and supervised by the Offeror. It should be noted that the level of the Offeror's involvement will depend on the individual project specifications and the owner's requirements.

7.10 The Contractor is responsible for ensuring that the proposed project's design and construction drawings and manual clearly indicate, identify and communicate the products, services and testing that must be provided to deal with existing site conditions, utilities lines, HVAC units and distribution systems, surrounding buildings and site access requirements.

7.11 The Contractor is responsible for being aware of, knowing and understanding all the individual AEPA state and local governing agency's codes, regulations and requirements dealing with public works construction projects.

7.12 If the Contractor is only providing the roofing/protective coating products/systems and the facility's owner/client is utilizing its own crews to install the products/systems, the Contractor must provide the owner with installation instructions, guidelines, requirements and recommendations for the site preparation and installation of the provided solution. However, it should be noted that AEPA and its Members are seeking and prefer Contractors who can provide a turn-key solution.

7.13 If any part of the design or construction work is to be performed by the owner's own crews or architect and/or a third party Contractor not associated with the Offeror/Contractor, the Contractor, prior to taking possession of the project site or proceeding with its work, must provide the owner with a signed affidavit stating that it has inspected and has accepted the current site conditions and work completed as meeting and/or exceeding its and the manufacturer, industry and governmental standards and requirements. If work is not acceptable, the Offeror must notify the owner immediately in writing, stating what is not acceptable and on what this determination was made.

7.14 **R.S. Means Quotations/Proposals:** When providing R.S. Means costs as part of a project's proposal, the following items apply:

1. Contractor must use the current year and standard cost data. Only the following cost data titles will be accepted:
    a. Repair and Remodeling Cost Data
    b. Building Construction Cost Data
    c. Facility Construction Cost Data
2. All work proposed under R.S. Means must use R.S. Means format, even if subcontractors are used. Subcontractor's invoices must tie to the R.S. Means spreadsheet.
3. An R.S. Means spreadsheet must be submitted to substantiate the quote given to the AEPA Member Agency. The spreadsheet columns must reveal the full R.S. Means number and an enough the description. This also applies to any change orders.
4. Pricing must be done by Location Codes. National Average will not be allowed. In order to choose the "closest" location code, the first three (3) numbers of the zip code will be used to determine the city location index in each state.
5. The AEPA contract holder factor, AEPA discount, bonding cost, and sales taxes if applicable, must be shown as separate line items at the bottom of the R.S. Means spreadsheet. This information can be shown on a separate summary sheet. The summary sheet must start with the R.S. Means spreadsheet total and show the detail for each of the items stated above. This detail will be provided to each AEPA State Agency and AEPA Customer as required.
6. All change orders which list items covered by R.S. Means must be supported by an R.S. Means spreadsheet with the level of detail that meets the requirements of the AEPA Member Agency.

8. Roofing Specifications: The following specifications are meant to be general guidelines for bidding purposes, and represent "minimum standards" for roofing materials, installation, maintenance, and labor. Where specific "brand names" or specific "manufacturer codes" are specified, bidders are free to consider and submit "or equal" substitutions.

8.1 **Water Resistant Roofing**

8.1.1 **Pressure cleaning:**

8.1.1.1 For pressure cleaning roof surfaces, use power washer unit at pressures of 2,000-5,000 psi with flow rates of 4 to 14 gallons per minute.

8.1.1.2 Use only clean, fresh water to remove oil, dirt, grease, chalk and other debris.

8.1.1.3 All high-pressure units must be operated in accordance with OSHA safety standards.

8.1.1.4 Rinse surface with clean water after cleaning to remove residue.

8.1.2 **Asphalt emulsion coating, waterproofing, brush applied, per coat.**

8.1.2.1 All areas to receive coating must be clean, dry and smooth.

8.1.2.2 Coating must be applied as specified on manufacturer's data sheets and at the rates specified. All emulsions used shall carry UL approved fire ratings, and be an UL listed assembly per 97UBC (1997 Uniform Building Code) and meet any existing approval standards in the state.

8.1.2.3 Containers shall be delivered to the worksite suitably packaged to permit acceptance by carrier with each container marked with brand name, type of product, and manufacturer's production code and/or lot number.

8.1.2.4 The emulsion shall be of suitable consistency for application above freezing by mop or brush, after stirring to homogeneity.

8.1.2.5 The application rate for flashings shall be a minimum of three (3) gallons per square per coat.

8.1.2.6 The application rate for new roof applications shall be a minimum of four (4) gallons per square per coat.

8.1.3 **Rubberized coating, waterproofing, brush applied, per coat.**

8.1.3.1 All areas to receive coating must be clean, dry and smooth.

8.1.3.2 The butyl acrylic emulsion coating must be applied as specified on manufacturer's data sheets and at the rates specified. The color of the sealant shall be the color agreed upon between the agency member and the prime contractor. All emulsions used shall carry UL approved fire ratings, and be an UL listed assembly per 97UBC, and meet any existing approval standards in the state.

8.1.3.3 The coating shall be composed of selected polymers compounded with appropriate resins, fillers, pigment, solvents, and chemical additives necessary to meet ASTM standards C 1085- 91.

8.1.3.4 Containers shall be delivered to the worksite suitably packaged to permit acceptance by carrier with each container marked with brand name, type of product, and manufacturer's production code and/or lot number.

8.1.3.5 Any and all coatings shall be free from defects.

8.1.3.6 The coating application rate for flashings shall be a minimum of three (3) gallons per square, per coat.

8.1.3.7 The coating application rate for new roof applications shall be a minimum of four (4) gallons per square per coat.

8.1.4 **Vinyl/acrylic resin**, **damp proofing, brush applied per coat.**

8.1.4.1 All areas to receive coating, especially masonry surfaces, must be clean, dry smooth, and free of any debris.

8.1.4.2 The vinyl/acrylic emulsion coating must be applied as specified on manufacturer's data sheets and at the rates specified. The color of the coating shall be the color agreed upon between the agency member and the prime contractor.

8.1.4.3 Special attention shall be given to preparation of surfaces requiring removal of all forms of release agents (oil, grease, wax, silicones), admixtures (water-immiscible chemical curing agents) and curing compounds (waxes, resins, film); if removal is not possible, the residue left must be non-detrimental to the waterproofing system, as determined by the prime contractor.

8.1.4.4 To prevent blistering or loss of adhesion from moisture encapsulated in concrete or masonry surfaces, prime contractor recommendations for a vapor permeable system must be followed.

8.1.4.5 Containers shall be delivered to the worksite suitably packaged to permit acceptance by carrier with each container marked with brand name, type of product, and manufacturer's production code and/or lot number.

8.1.4.6 The coating shall be free from defects.

8.1.5 **Non-pigmented synthetic resin**, **waterproofing, one coat sprayed on.**

8.1.5.1 All areas to receive coating must be clean, dry and smooth.

8.1.5.2 The non-pigmented synthetic resin coating must be applied as specified on manufacturer's data sheets and at the rates specified.

8.1.5.3 Containers shall be delivered to the worksite suitably packaged to permit acceptance by carrier with each container marked with brand name, type of product, and manufacturer's production code and/or lot number.

8.1.5.4 The coating shall be free from defects.

8.1.6 **Caulking: remove existing, clean and prime joint.**

8.1.6.1 Remove any existing caulk from joints.

8.1.6.2 Clean joint; prime with primer as specified by the manufacturer of the caulking material. The purpose of the primer is to improve the adhesion of the caulk. (Note: Unanticipated field conditions may require a change in the type of caulk or primer. Prime contractor has the authority to order a no cost change.)

8.1.6.3 Install specified backer rod to achieve required joint depths and shape, to permit full sealant wetting of the substrate surface when tooled, and to act as a temporary joint

seal. If lack of immediate sealant application results in weathering, the backer rod shall be replaced with new sealant backing at no additional cost to the owner.

8.1.6.4 Use bond breaker tape as specified by the caulk manufacturer. The bond-breaker may be a polyethylene or TFE-fluorocarbon self-adhesive tape, or one approved by the manufacturer of the caulk.

8.1.6.5 Install sealant in accordance with ASTM C 1193.

8.1.6.6 Follow the caulking manufacturer recommendations, tool all joints.

8.1.6.7 Joints shall be free of air pockets, foreign matter, ridges and sags.

8.1.6.8 Adjoining surfaces and sealed joints shall be free of smears and other soiling. If a masking tape is used to protect from smears, it must be non-staining, non-absorbent, and must not disturb the sealant when carefully removed. Remove any excess caulking.

8.1.7 **Caulking, epoxied urethane compound, 2 components, 1/4" x 1/4", in place.**

8.1.7.1 Epoxied urethane base (one component) plus catalyst (2nd compound), chemical curing. Type 1, self-leveling; Type 2, non-sagging; conforming to FS-TT-S-00227, Class A; ASTM C 804, shore hardness 25 minimum to 35 maxima.

8.1.7.2 Caulk must be non-staining. Color approved by buyer.

8.1.7.3 Wipe prepared joint free of all debris; verify joint depth using backer rod as specified by caulking manufacturer's specifications.

8.1.7.4 Install bond breaker tape where required by manufacturer.

8.1.7.5 Mix sealant as specified on labels.

8.1.7.6 Install caulking into prepared joint and tool per prime contractor's instruction, concave or convex.

8.1.7.7 Caulking must be free of wrinkles, sags, ridges, air pockets and debris.

8.1.7.8 Clean adjoining surfaces.

8.1.8 **Caulking, polyurethane, 1 component, 1/4" x 1/4", in place.**

8.1.8.1 Polyurethane base, single component, chemical curing. Conforms to FS-TT-S-00230 and ASTM C 804, shore hardness, 25 minima to 35 maxima. Buyer selects color.

8.1.8.2 Wipe prepared joint free of all debris; verify joint depth using backer rod as specified by caulking manufacturer's specifications.

8.1.8.3 Install bond breaker tape where required by prime contractor.

8.1.8.4 Install caulking into prepared joint and tool per prime contractor's instruction, concave or convex.

8.1.8.5 Caulking must be free of wrinkles, sags, ridges, air pockets and debris.

8.1.8.6 Clean adjoining surfaces.

8.1.9 **Caulking, polyurethane, 1 component, 1/2" x 1/2", in place.**

8.1.9.1 Polyurethane base, single component, chemical curing. Conforms to FS-TT-S-00230 and ASTM C 804, shore hardness, 25 minima to 35 maxima. Buyer selects color.

8.1.9.2 Wipe prepared joint free of all debris; verify joint depth using backer rod as specified by caulking manufacturer's specifications.

8.1.9.3 Install bond breaker tape where required by prime contractor.

8.1.9.4 Install caulking into prepared joint and tool per manufacturer's instruction, concave or convex.

8.1.9.5 Caulking must be free of wrinkles, sags, ridges, air pockets and debris.

8.1.9.6 Clean adjoining surfaces.

8.1.10 **Caulking, silicone rubber, 1 component, 1/4" x 1/4", in place.**

8.1.10.1 Silicone base, single component, chemical curing. Conforms to FS-TT-S-1543, Class A, shore hardness A - 50 maximum.

8.1.10.2 Caulk must be non-staining and color approved by buyer.

8.1.10.3 Wipe prepared joint free of all debris; verify joint depth using backer rod as specified by caulking manufacturer's specifications.

8.1.10.4 Install bond breaker tape where required by prime contractor.
8.1.10.5 Mix sealant as specified on labels.
8.1.10.6 Install caulking into prepared joint and tool per prime contractor's instruction, concave or convex.
8.1.10.7 Caulking must be free of wrinkles, sags, ridges, air pockets and debris
8.1.10.8 Clean adjoining surfaces.
8.1.11 **Caulking, epoxied urethane compound, 2 component, 1/4" x 1/4", in place.**
8.1.11.1 Epoxied urethane base (one component) plus catalyst (2nd compound), chemical curing. Type 1, self-leveling; Type 2, non-sagging; conforming to FS-TT-S-00227, Class A; ASTM C 804, shore hardness 25 minimum to 35 maximum.
8.1.11.2 Caulk must be non-staining. Color approved by buyer.
8.1.11.3 Wipe prepared joint free of all debris; verify joint depth using backer rod as specified by caulking manufacturer's specifications.
8.1.11.4 Install bond breaker tape where required by manufacturer.
8.1.11.5 Install caulking into prepared joint and tool per prime contractor's instruction, concave or convex.
8.1.11.6 Caulking must be free of wrinkles, sags, ridges, air pockets and debris.
8.1.11.7 Clean adjoining surfaces.
8.1.11.8 Caulking, silicone rubber, 1 component, 3/4" x 3/8", in place.
8.1.11.9 Silicone base, single component, chemical curing. Conforms to FS-TT-S-1543, Class A, shore hardness A - 50 maximum.
8.1.11.10 Caulk must be non-staining and color approved by buyer.
8.1.11.11 Wipe prepared joint free of all debris; verify joint depth using backer rod as specified by caulking manufacturer's specifications.
8.1.11.12 Install bond breaker tape where required by prime contractor.
8.1.11.13 Install caulking into prepared joint and tool per prime contractor's instruction, concave or convex.
8.1.11.14 Caulking must be free of wrinkles, sags, ridges, air pockets and debris.
8.1.11.15 Clean adjoining surfaces.
8.1.12 **Backer rod, polyethylene, 3/8" diameter, installed in prepared opening.**
8.1.12.1 Closed cell polyethylene, extruded, round, lightweight, non-impregnated, non-bleeding, non- staining, and odor free. Must be chemical resistant with negligible water absorptive characteristics and meet or exceed ASTM D-994-77.
8.1.12.2 Inspect joint to be sure all preparations are complete. Verify inspection.
8.1.12.3 Install backer into joint at depth specified by caulking manufacturer, minimum 25% compression.
8.1.12.4 Joint ends to be flush with no gaps.
8.1.12.5 Must be installed same day as caulking.
8.1.13 **Backer rod, polyethylene, 1/2" diameter, installed in prepared opening.**
8.1.13.1 Closed cell polyethylene, extruded, round, lightweight, non-impregnated, non-bleeding, non- staining, and odor free. Must be chemical resistant with negligible water absorptive characteristics and meet or exceed ASTM D-994-77.
8.1.13.2 Inspect joint to be sure all preparations are complete. Verify inspection.
8.1.13.3 Install backer into joint at depth specified by caulking manufacturer, minimum 25% compression.
8.1.13.4 Joint ends to be flush with no gaps.
8.1.13.5 Must be installed same day as caulking.
8.1.14 **Backer rod, polyethylene, 3/4" diameter, installed in prepared opening.**
8.1.14.1 Closed cell polyethylene, extruded, round, lightweight, non-impregnated, non-bleeding,

non- staining, and odor free. Must be chemical resistant with negligible water absorptive characteristics and meet or exceed ASTM D-994-77.

8.1.14.2 Inspect joint to be sure all preparations are complete. If you see some debris, remove it from the joint. Deposit the debris in a proper debris depository.

8.1.14.3 Install backer into joint at depth specified by caulking manufacturer, minimum 25% compression.

8.1.14.4 Joint ends to be flush with no gaps.

8.1.14.5 Must be installed same day as caulking.

8.1.15 **Backer rod, polyethylene, 1" diameter, installed in prepared opening.**

8.1.15.1 Closed cell polyethylene, extruded, round, lightweight, non-impregnated, non-bleeding, non- staining, and odor free. Must be chemical resistant with negligible water absorptive characteristics and meet or exceed ASTM D-994-77.

8.1.15.2 Inspect joint to be sure all preparations are complete. Continue to use sound judgment to verify inspection.

8.1.15.3 Install backer into joint at depth specified by caulking manufacturer, minimum 25% compression.

8.1.15.4 Joint ends to be flush with no gaps.

8.1.15.5 Must be installed same day as caulking.

8.1.16 **Building paper, asphalt felt sheathing paper, 1 ply, 15#, in place.**

8.1.16.1 Use 15 lb. organic felt that meets or exceeds ASTM D-226-89, Type I, UL label. If it contains any asbestos, don't use it.

8.1.16.2 Nails are to be hot dipped galvanized 11 or 12-gauge barb shank with 3/8" heads, sharp pointed and long enough to penetrate and grasp 3/4" or 1". Capped Simplex or Maze nails or approved equals may be used.

8.1.16.3 After deck has been inspected and found to be clean and ready, nail felt to roof deck with approved fasteners, as specified.

8.1.16.4 Run felts single fashion starting at low point and running to ridge.

8.1.16.5 Side laps to be 2" minimum; end laps, 6" minimum.

8.1.16.6 Seal penetrations with approved mastic to meet or exceed ASTM D-2822 and Federal Specification SS-C-153, Type I, asbestos free.

8.1.17 **Building paper, red rosin paper, 5 square rolls, 4 pounds per square, in place.**

8.1.17.1 Red rosin paper, weighing 4 lb./100 square feet that meets ASTM D-549-74.

8.1.17.2 Use fasteners specified by prime contractor for deck type.

8.1.17.3 Mechanically fasten red rosin to nailable deck with correct fasteners. Use fastening pattern that meets FM I-90.

8.1.18 **Vapor retarder adhered, 2 ply inorganic, glass, Type IV, applied in Type IV (or appropriate type) asphalt, in place.**

8.1.18.1 Asphalt water-based primer to meet ASTM D-3960-87.

8.1.18.2 Asphalt, Type IV steep (or appropriate Type), UL, Class ASTM D 312-84. 9.1.18.3 Inorganic glass roof ply, Type IV, unperforated, 36" wide, ASTM D 2178.

9.1.18.4 Prime deck; use one gallon of primer for every 150-200 sq. ft.

9.1.18.5 Install two plies of specified felt in a continuous mopping of specified asphalt at a rate of 25 lbs. per square per ply.

9.1.18.6 Run felts shingle fashion. Broom all plies at application. Extend all plies to top of cant and seal.

9.1.18.7 Glaze coat finished piles with asphalt specified at a rate of 15 lbs. per square.

8.1.19 **Vapor retarder, 2 ply organic, Type 15 pound, applied in Type IV asphalt (or appropriate type), in place.**

8.1.19.1 Asphalt water-based primer to meet ASTM D-3960-87.

8.1.19.2 Asphalt, Type IV (or appropriate type) steep, UL, Class ASTM D 312-84.

8.1.19.3 Organic roof ply, ASTM D 266-89, Type I, unperforated, 36" wide.

8.1.19.4 Concrete decks: prime deck; use one gallon of primer for every 150-200 sq. ft.

8.1.19.5 Nailable decks: mechanically attach first ply to FM 1-90 fastening pattern; install second ply of specified felt into a continuous mopping of specified asphalt at a rate of 25 lbs. per 100 square feet.

8.1.19.6 Run felts shingle fashion. Broom all plies at application. Extend all plies to top of cant and seal.

8.1.19.7 Glaze coat finished piles with asphalt specified at a rate of 15 lbs. per square.

8.1.20 **Vapor retarder; 2-ply inorganic, glass, Type IV, applied in cold adhesive to 4' x 8' x 1/4" glass- mat embedded, water resistant gypsum core panel mechanically fastened.**

8.1.20.1 Nonstructural, glass-mat embedded, water resistant gypsum core panel, UL 1356 as a thermal barrier underlayment over steel decks.

8.1.20.2 Fasteners with 3" galvanized metal plates.

8.1.20.3 Provide equipment, materials, tools and experienced labor to install gypsum core panels. Attach panel to the substrate with approved fastening methods as follows.

8.1.20.4 Mechanically attached: join single layer insulation to deck with approved fastener one (1) every two (2) square feet. Install additional fasteners to ensure insulation is firmly affixed, per manufacturer's instructions.

8.1.20.5 Fasteners are to be flush with top surface of insulation.

8.1.20.6 Filler insulation requires two (2) fasteners per piece.

8.1.20.7 Form continuous joints over deck flange. Do not cantilever edges over deck ribs, minimum bearing surface 1 1/2", and doesn't exceed 35 psi in accordance with ASTM C 165.

8.1.20.8 Insulation must meet UL and FM requirements; must not have over 1/4" joints between boards.

8.1.20.9 Joints must be staggered a minimum of 12".

8.1.20.10 Workmanship must be superior; must comply with FM, UL and Roofing Materials Manufacturer's guidelines and specifications.

8.1.20.11 Asphalt water-based primer must meet ASTM D 3960-87.

8.1.20.12 Cold asphalt adhesive must be UL approved, be applied at 2 gallons per 100 square feet, inner ply. Must meet SCAQMD VOC limits and contain no asbestos as per ASTM D 276-87.

8.1.20.13 Inorganic glass roof ply, Type IV, unperforated, 36" wide, ASTM D 2178.

8.1.20.14 Prime substrate; use one gallon of primer every 150-200 square feet.

8.1.20.15 Install two plies of specified felt in a continuous application of specified cold adhesive at a rate of 2 gallons per 100 square feet per ply.

8.1.20.16 Run felts shingle fashion. Broom all plies at application. Extend all plies to top of cant and seal.

8.2 **Insulation**

8.2.1 **Demolition of roof insulation, per inch of depth.**

8.2.1.1 Remove existing insulation down to roof deck.

8.2.1.2 Remove all debris from job site and dispose of in an approved landfill.

8.2.1.3 Be sure all debris is removed from flutes in deck and in any area debris might settle.

8.2.1.4 All demolition work must comply with OSHA, EPA, and local building codes and regulations.

8.2.1.5 If applicable, remove all fasteners from decking.

8.2.2 **Demolition of lightweight cementitious fill, per inch of depth.**

8.2.2.1 Using mechanical, manual, or other approved means, remove cementitious fill.

8.2.2.2 Clean subdeck of all rubbish.

8.2.2.3 Dispose of all rubbish and litter; all demolition work must comply with OSHA, NCRA, EPA, and local building codes and regulations.

8.2.2.4 Using self-tapping, coated metal deck fasteners, reattach laps, seams and loose metal, if applicable as needed.

8.2.3 **Roof deck insulation, Isocyanurate in 4' x 4' or 4' x 8' sheets with fiberglass facers, 1" thick, R-6.6, applied into Type IV (or appropriate) asphalt.**

8.2.3.1 Isocyanurate, HH-I-1972/GEN and HH-I-1972/2 Fire Approval, Class I, with UL labels.

8.2.3.2 Steep Asphalt, Type IV (or appropriate) meeting ASTM D 312-89, applied at a rate of 30 lbs. per 100 square feet.

8.2.3.3 Provide equipment, materials, tools and experienced labor to install rigid roof insulation. Adhere the insulation to the substrate with approved fastening methods, as follows.

8.2.3.4 Hot applications: adhere insulation to primed deck with continuous mopping of appropriate asphalt at the rate of 30 lbs. per 100 square feet.

8.2.3.5 Cold applications: adhere insulation to thermal barrier with a cold adhesive at a rate of 1.5 gallons per 100 square feet.

8.2.3.6 Hot applied to sub insulation; adhere with a continuous mopping of appropriate asphalt at a rate of 30 lbs. per 100 square feet.

8.2.3.7 Insulation must meet UL and FM requirements and must not have over 1/4" joints between boards.

8.2.3.8 Joints must be staggered a minimum of 12".

8.2.3.9 Workmanship must be superior and comply with NRCA, FM, UL and roofing material manufacturer's guidelines and specifications.

8.2.4 **Roof deck insulation, Isocyanurate in 4' x 4' or 4' x 8' sheets with fiberglass facers, 1 1/2" thick, R-10.0, applied Type IV (or appropriate) asphalt.**

8.2.4.1 Isocyanurate, HH-I-1972/GEN and HH-I-1972/2 Fire Approval, Class I, with UL labels.

8.2.4.2 Steep Asphalt, Type IV (or appropriate) meeting ASTM D 312-89, applied at a rate of 30 lbs. per 100 square feet.

8.2.4.3 Provide equipment, materials, tools and experienced labor to install rigid roof insulation. Adhere the insulation to the substrate with approved fastening methods, as follows.

8.2.4.4 Hot applications: adhere insulation to primed deck or sub-insulation with continuous mopping of steep or appropriate asphalt at the rate of 30 lbs. per 100 square feet.

8.2.4.5 Cold applications: adhere insulation to primed deck or sub-insulation with a cold adhesive at a rate of 1.5 gallons per 100 square feet.

8.2.4.6 Insulation must meet UL and FM requirements and must not have over 1/4" joints between boards.

8.2.4.7 Joints must be staggered a minimum of 12".

8.2.4.8 Workmanship must be superior and comply with NRCA, FM, UL and roofing material manufacturer's guidelines and specifications.

8.2.5 **Roof deck insulation, Isocyanurate in 4' x 4' or 4' x 8' sheets, 1" thick, R-6.6, mechanically fastened.**

8.2.5.1 Isocyanurate, HH-I-1972/GEN and HH-I-1972/2 Fire Approval, Class I and/or labeled with UL/FM labels.

8.2.5.2 Fasteners with 3" galvanized metal plates.

8.2.5.3 Provide equipment, materials, tools and experienced labor to install rigid roof insulation. Attach the insulation to the substrate with approved fastening methods, as follows.

8.2.5.4 Mechanically attached: mechanically join single layer insulation to deck with approved fastener minimum of one (1) every 2 square feet. Install additional fasteners to ensure

insulation is firmly affixed, especially at parapets and at perimeters, as required per FM I-90 (depending on deck location and height).

8.2.5.5 Fasteners are to be flush with top surface of insulation.

8.2.5.6 Filler insulation requires two (2) fasteners per piece.

8.2.5.7 Form continuous insulation joints over deck flange. Do not cantilever insulation edges over deck ribs, minimum bearing surface 1 1/2" and doesn't exceed 35 psi in accordance with ASTM C 165. Attachment and flute span will be in accordance with insulation board manufacturer's specifications and comply with UL, Class A and FM I-90 attachment standards.

8.2.5.8 Insulation must meet UL and FM requirements and must not have over 1/4" joints between boards.

8.2.5.9 Joints must be staggered a minimum of 12".

8.2.5.10 Workmanship must be superior and comply with NRCA, FM, UL and roofing material manufacturer's guidelines and specifications.

8.2.6 **Roof deck insulation, Isocyanurate in 4' x 4' or 4' x 8' sheets with fiberglass facers, 1 1/2" thick, R-10.0, mechanically fastened.**

8.2.6.1 Isocyanurate, HH-I-1972/GEN and HH-I-1972/2 Fire Approval, Class I and/or labeled with UL/FM labels.

8.2.6.2 Fasteners with 3" galvanized metal plates.

8.2.6.3 Provide equipment, materials, tools and experienced labor to install rigid roof insulation. Attach the insulation to the substrate with approved fastening methods, as follows.

8.2.6.4 Mechanically attached: mechanically join single layer insulation to deck with approved fastener minimum of one (1) every 2 square feet. Install additional fasteners to ensure insulation is firmly affixed, especially at parapets and at perimeters, as required per FM I-90 (depending on deck location and height).

8.2.6.5 Fasteners are to be flush with top surface of insulation.

8.2.6.6 Filler insulation requires two (2) fasteners per piece.

8.2.6.7 Form continuous insulation joints over deck flange. Do not cantilever insulation edges over deck ribs, minimum bearing surface 1 1/2" and doesn't exceed 35 psi in accordance with ASTM C 165. Attachment and flute span will be in accordance with insulation board manufacturer's specifications and comply with UL, Class A and FM I-90 attachment standards.

8.2.6.8 Insulation must meet UL and FM requirements and must not have over 1/4" joints between boards.

8.2.6.9 Joints must be staggered a minimum of 12".

8.2.6.10 Workmanship must be superior and comply with NRCA, FM, UL and roofing material manufacturer's guidelines and specifications.

8.2.7 **Roof deck insulation, fiberboard in 4' x 4' sheets, 1/2" thick, R-1.39, applied Type IV (or appropriate) asphalt, coated six sides.**

8.2.7.1 High-density fiberboard ASTM C 208-82, HH-I-526C for fiberboard with flame spread of 25 maxima. Must comply with ASTM D 84 and have compressive resistance not more than 35 psi as per ASTM c 165.

8.2.7.2 Steep Asphalt, Type IV (or appropriate type) meeting ASTM D 312-89, applied at a rate of 30 lbs. per 100 square feet.

8.2.7.3 Provide equipment, materials, tools and experienced labor to install rigid roof insulation. Adhere the insulation to the substrate with approved fastening methods, as follows.

8.2.7.4 Hot applications: adhere insulation to primed deck with continuous mopping of steep or appropriate asphalt at the rate of 30 lbs. per 100 square feet.

8.2.7.5 Cold applications: adhere insulation to primed deck or sub-insulation with a cold adhesive at a rate of 1.5 gallons per 100 square feet.

8.2.7.6 Hot applied: adhere with a continuous mopping of steep or appropriate asphalt at a rate of 30 lbs. per 100 square feet. Walk insulation down. Spread bitumen pools. Do not allow bitumen to accumulate on surface of insulation.

8.2.7.7 Filler insulation requires two (2) fasteners per piece, or as stated by manufacturer.

8.2.7.8 Form continuous insulation joints over deck flange. Do not cantilever insulation edges over deck ribs, minimum bearing surface 1 1/2" and doesn't exceed 35 psi in accordance with ASTM C 165. Attachment and flute span will be in accordance with insulation board manufacturer's specifications and comply with UL, Class A and FM I-90 attachment standards.

8.2.7.9 Insulation must meet UL and FM requirements and must not have over 1/4" joints between boards.

8.2.7.10 Joints must be staggered a minimum of 12".

8.2.7.11 Workmanship must be superior and comply with NRCA, FM, UL and roofing material manufacturer's guidelines and specifications.

8.2.8 **Roof deck insulation, fiberboard in 4' x 8' sheets, 25/32" thick, R-2.4, installed hot/cold or mechanically attached, coated six sides.**

8.2.8.1 High-density fiberboard ASTM C 208-82, HH-I-526C for fiberboard with flame spread of 25 maximum. Must comply with ASTM D 84 and have compressive resistance not more than 35 psi as per ASTM C 165.

8.2.8.2 Steep Asphalt, Type IV (or appropriate type) meeting ASTM D 312-89, applied at a rate of 30 lbs. per 100 square feet.

8.2.8.3 Provide equipment, materials, tools and experienced labor to install rigid roof insulation. Adhere the insulation to the substrate with approved fastening methods, as follows.

8.2.8.4 Hot applications: adhere insulation to primed deck with continuous mopping of steep or appropriate asphalt at the rate of 30 lbs. per 100 square feet.

8.2.8.5 Cold applications: adhere insulation to primed deck or sub-insulation with a cold adhesive at a rate of 1.5 gallons per 100 square feet.

8.2.8.6 Hot applied to sub insulation; adhere with a continuous mopping of steep or appropriate asphalt at a rate of 30 lbs. per 100 square feet. Walk insulation down. Spread bitumen pools. Do not allow bitumen to accumulate on surface of insulation.

8.2.8.7 Mechanically attached: mechanically join single layer insulation to deck with approved fastener minimum of one (1) every 2 square feet. Install additional fasteners to ensure insulation is firmly affixed, especially at parapets and at perimeters, as required per FM I-90 (depending on deck location and height).

8.2.8.8 Three-inch galvanized metal plate fasteners are to be flush with top surface of insulation.

8.2.8.9 Filler insulation requires two (2) fasteners per piece.

8.2.8.10 Form continuous insulation joints over deck flange. Do not cantilever insulation edges over deck ribs, minimum bearing surface 1 1/2" and doesn't exceed 35 psi in accordance with ASTM C 165. Attachment and flute span will be in accordance with insulation board manufacturer's specifications and comply with UL, Class A and FM I-90 attachment standards.

8.2.8.11 Insulation must meet UL and FM requirements and must not have over 1/4" joints between boards.

8.2.8.12 Joints must be staggered a minimum of 12".

8.2.8.13 Workmanship must be superior and comply with NRCA, FM, UL and roofing material manufacturer's guidelines and specifications.

8.2.9 **Roof deck insulation, fiberboard in 4' x 4', 1" thick, R-2.78, applied Type IV (or appropriate) asphalt, coated six sides.**

8.2.9.1 High-density fiberboard ASTM C 208-82, HH-I-526C for fiberboard with flame spread of 25 maximum. Must comply with ASTM D 84 and have compressive resistance not more than 35 psi as per ASTM c 165.

8.2.9.2 Steep or appropriate Asphalt, Type IV meeting ASTM D 312-89, applied at a rate of 30 lbs. per 100 square feet.

8.2.9.3 Provide equipment, materials, tools and experienced labor to install rigid roof insulation. Adhere the insulation to the substrate with approved fastening methods, as follows.

8.2.9.4 Hot applications: adhere insulation to primed deck or sub-insulation with continuous mopping of steep or appropriate asphalt at the rate of 30 lbs. per 100 square feet.

8.2.9.5 Cold applications: adhere insulation to primed deck or sub-insulation with a continuous mopping of steep or appropriate asphalt at a rate of 30 lbs. per 100 square feet.

8.2.9.6 Cold applied: adhere with a cold adhesive at a rate of 1.5 gallons per 100 square feet. Walk insulation down. Spread bitumen pools. Do not allow bitumen to accumulate on surface of insulation, or on workers shoes.

8.2.9.7 Filler insulation requires two (2) fasteners per piece, or as recommended by manufacturer.

8.2.9.8 Form continuous insulation joints over deck flange. Do not cantilever insulation edges over deck ribs, minimum bearing surface 1 1/2" and doesn't exceed 35 psi in accordance with ASTM C 165. Attachment and flute span will be in accordance with insulation board manufacturer's specifications and comply with UL, Class A and FM I-90 attachment standards.

8.2.9.9 Insulation must meet UL and FM requirements and must not have over 1/4" joints between boards.

8.2.9.10 Joints must be staggered a minimum of 12".

8.2.9.11 Workmanship must be superior and comply with NRCA, FM, UL and roofing material manufacturer's guidelines and specifications.

8.2.10 **Roof deck insulation, fiberboard in 4' x 4' sheets, 1/2" thick, R-1.39, mechanically fastened, coated six sides.**

8.2.10.1 High-density fiberboard ASTM C 208-82, HH-I-526C for fiberboard with flame spread of 25 maximum. Must comply with ASTM D 84 and have compressive resistance not more than 35 psi as per ASTM C 165.

8.2.10.2 Fasteners with 3" galvanized metal plates.

8.2.10.3 Provide equipment, materials, tools and experienced labor to install rigid roof insulation. Adhere the insulation to the substrate with approved fastening methods, as follows.

8.2.10.4 Mechanically attached: mechanically join single layer insulation to deck with approved fastener minimum of one (1) every 2 square feet. Install additional fasteners to ensure insulation is firmly affixed, especially at parapets and at perimeters, as required per FM I-90 (depending on deck location and height).

8.2.10.5 Fasteners are to be flush with top surface of insulation.

8.2.10.6 Filler insulation requires two (2) fasteners per piece.

8.2.10.7 Form continuous insulation joints over deck flange. Do not cantilever insulation edges over deck ribs, minimum bearing surface 1 1/2" and doesn't exceed 35 psi in accordance with ASTM C 165.

8.2.10.8 Attachment and flute span will be in accordance with insulation board manufacturer's specifications and comply with UL, Class A and FM I-90 attachment standards.

8.2.10.9 Insulation must meet UL and FM requirements and must not have over 1/4" joints between boards.

8.2.10.10 Joints must be staggered a minimum of 12".

8.2.10.11 Workmanship must be superior and comply with NRCA, FM, UL and roofing material manufacturer's guidelines and specifications.

8.2.11 **Roof deck insulation, fiberboard in 4' x 4', 1" thick, R-2.78, mechanically fastened, coated six sides.**

8.2.11.1 High-density fiberboard ASTM C 208-82, HH-I-526C for fiberboard with flame spread of 25 maximum. Must comply with ASTM D 84 and have compressive resistance not more than 35 psi as per ASTM C 165.

8.2.11.2 Fasteners with 3" galvanized metal plates.

8.2.11.3 Provide equipment, materials, tools and experienced labor to install rigid roof insulation. Adhere the insulation to the substrate with approved fastening methods, as follows.

8.2.11.4 Mechanically attached: mechanically join single layer insulation to deck with approved fastener minimum of one (1) every 2 square feet. Install additional fasteners to ensure insulation is firmly affixed, especially at parapets and at perimeters, as required per FM I-90 (depending on deck location and height).

8.2.11.5 Fasteners are to be flush with top surface of insulation.

8.2.11.6 Filler insulation requires two (2) fasteners per piece.

8.2.11.7 Form continuous insulation joints over deck flange. Do not cantilever insulation edges over deck ribs, minimum bearing surface 1 1/2" and doesn't exceed 35 psi in accordance with ASTM C 165.

8.2.11.8 Attachment and flute span will be in accordance with insulation board manufacturer's specifications and comply with UL, Class A and FM I-90 attachment standards.

8.2.11.9 Insulation must meet UL and FM requirements and must not have over 1/4" joints between boards.

8.2.11.10 Joints must be staggered a minimum of 12".

8.2.11.11 Workmanship must be superior and comply with NRCA, FM, UL and roofing material manufacturer's guidelines and specifications.

8.2.12 **Roof deck insulation, lightweight cellular, wire-reinforced concrete fill, R-value depending on thickness, per inch of depth**

8.2.12.1 Prepare areas for cellular concrete.

8.2.12.2 Install cellular concrete, 2" minimum thickness, sloped to existing drains. Slope shall be 1/4" per running foot, minimum.

8.2.12.3 Cover deck with slurry coat. Graduate thickness of insulation from high to low point. Stagger end joints and butt all joints to moderate contact. Allow slurry coat/insulation to set for 24 hours.

8.2.12.4 Install top pour of cellular concrete over insulation. Fill all bond holes. A minimum of 2" thickness over the insulation is required.

8.2.12.5 Use screeds (leveling devices) and darbies to attain smooth, even surface.

8.2.12.6 Carefully plan the work to avoid cold joints, but if you have any, scarify cold joints to provide mechanical key.

8.2.12.7 During winter months, protect installation from freezing until initial set is attained.

8.2.12.8 Provide reinforcing mesh into all areas where cellular concrete is placed. Butt or space sides not more than 4"; cut mesh to fit all walls, curbs, and openings. (Note: to meet FM requirements, mesh must be used.)

8.2.12.9 Mix and pump cellular concrete into place using personnel and equipment approved of by the concrete manufacturer. Mixing time shall be enough to provide a consistent, thorough concoction that will freely flow and screed to a smooth surface.

8.2.12.10 Proportion cellular concrete to provide a density of 40 lbs./cubic foot, ± 5% and 28-day compressive strength of 160 psi.

8.2.12.11 Pour cellular concrete only when temperatures are predicted to be above 40°F for the next two days.

8.2.12.12 Provide daily 2-ply bituminous tie-in connections at cellular concrete/roofing terminations.

8.2.12.13 If applicable, remove embedded gravel from top ply along termination. (Width of 8")

8.2.12.14 Install 5-course felt/mesh bituminous reinforcement; extend membrane at least 6" onto roofing and top surface of cellular cement using asphalt mastic or flashing bitumen. Make everything watertight.

8.2.12.15 Seal any surface cracks with asphalt mastic.

8.2.12.16 Spray curing compound to entire surface within 24 hours of placement.

8.2.12.17 Allow cellular concrete to cure and become hard to withstand foot traffic and other light roof operations, approximately 3 days. Before one is allowed on the new roof, be sure exposed surface is dry.

8.2.13 **Roof deck insulation, vermiculite at 1/8:12, R-value depending on thickness, per inch of depth.**

8.2.13.1 Prepare areas for concrete with vermiculite aggregate.

8.2.13.2 Install vermiculite concrete, 2" minimum thickness, sloped to existing drains. Slope shall be 1/8" per running foot, minimum.

8.2.13.3 Cover deck with slurry coat. Graduate thickness of insulation from high to low point. Stagger end joints and butt all joints to moderate contact. Allow slurry coat/insulation to set for 24 hours.

8.2.13.4 Install top pour of vermiculite concrete over tapered expanded polystyrene board (EPS).

Fill all bond holes. A minimum of 2" thickness over the insulation is required.

8.2.13.5 Use screeds (leveling devices) and darbies to attain smooth, even surface.

8.2.13.6 Carefully plan the work to avoid cold joints, but if you have any, scarify cold joints to provide mechanical key.

8.2.13.7 During winter months, protect installation from freezing until initial set is attained.

8.2.13.8 Provide reinforcing mesh into all areas where vermiculite concrete is placed. Butt or space sides not more than 4"; cut mesh to fit all walls, curbs, and openings. (Note: to meet FM requirements, mesh must be used.)

8.2.13.9 Mix and pump vermiculite concrete into place using personnel and equipment approved of by the concrete manufacturer. Mixing time shall be sufficient to provide a consistent, thorough concoction that will freely flow and screed to a smooth surface.

8.2.13.10 Proportion vermiculite concrete to provide a density of 40 lbs./cubic foot, ± 5% and 28-day compressive strength of 160 psi.

8.2.13.11 Pour vermiculite concrete only when temperatures are predicted to be above 40°F for the next two days.

8.2.13.12 Provide daily 2-ply bituminous tie-in connections at vermiculite concrete/roofing terminations.

8.2.13.13 Remove embedded gravel from top ply along termination. (Width of 8").

8.2.13.14 Install 5-course felt/mesh bituminous reinforcement; extend membrane at least 6" onto roofing and top surface of vermiculite cement using asphalt mastic or flashing bitumen. Make everything watertight!

8.2.13.15 Seal any surface cracks with asphalt mastic.

8.2.13.16 Spray curing compound to entire surface within 24 hours of placement.

8.2.13.17 Allow vermiculite concrete to cure and become hard to withstand foot traffic and other light roof operations, approximately 3 days. Before anyone is allowed on the new roof, be sure exposed surface is dry.

8.2.14 **Roof deck insulation, vermiculite at 1/4:12, R-value based on thickness, per inch of depth.**

8.2.14.1 Prepare areas for concrete with vermiculite aggregate.

8.2.14.2 Install vermiculite concrete, 2" minimum thickness, sloped to existing drains. Slope shall be 1/4" per running foot, minimum.

8.2.14.3 Cover deck with slurry coat. Graduate thickness of insulation from high to low point. Stagger end joints and butt all joints to moderate contact. Allow slurry coat/insulation to set for 24 hours.

8.2.14.4 Install top pour of vermiculite concrete over tapered expanded polystyrene board (EPS).

Fill all bond holes. A minimum of 2" thickness over the insulation is required.

8.2.14.5 Use screeds (leveling devices) and darbies to attain smooth, even surface.

8.2.14.6 Carefully plan the work to avoid cold joints, but if you have any, scarify cold joints to provide mechanical key.

8.2.14.7 During winter months, protect installation from freezing until initial set is attained.

8.2.14.8 Provide reinforcing mesh into all areas where vermiculite concrete is placed. Butt or space sides not more than 4"; cut mesh to fit all walls, curbs, and openings. (Note: to meet FM requirements, mesh must be used.)

8.2.14.9 Mix and pump vermiculite concrete into place using personnel and equipment as approved by the concrete manufacturer. Mixing time shall be sufficient to provide a consistent, thorough concoction that will freely flow and screed to a smooth surface.

8.2.14.10 Proportion vermiculite concrete to provide a density of 40 lbs./cubic foot, ± 5% and 28day compressive strength of 160 psi.

8.2.14.11 Pour vermiculite concrete only when temperatures are predicted to be above 40°F for the next two days.

8.2.14.12 Provide daily 2-ply bituminous tie-in connections at vermiculite concrete/roofing terminations.

8.2.14.13 Remove embedded gravel from top ply along termination. (Width of 8")

8.2.14.14 Install 5-course felt/mesh bituminous reinforcement; extend membrane at least 6" onto roofing and top surface of vermiculite cement using asphalt mastic or flashing bitumen. Make everything watertight.

8.2.14.15 Seal any surface cracks with asphalt mastic.

8.2.14.16 Spray curing compound to entire surface within 24 hours of placement.

8.2.14.17 Allow vermiculite concrete to cure and become hard to withstand foot traffic and other light roof operations, approximately 3 days. Before anyone is allowed on the new roof, be sure exposed surface is dry.

8.2.15 **Roof deck insulation, gypsum panels, 3" thick.**

8.2.15.1 Remove existing decking.

8.2.15.2 Replace gypsum panels; stabilize and provide bracing for the purlins, as necessary.

8.2.15.3 Install per manufacturer's instruction. Gypsum planks will have UL classification markings.

8.2.15.4 Gypsum will not be used in areas of high humidity and wetness.

8.2.16 **Roof deck insulation, Isocyanurate (black facer only), tapered, 1/8" per foot slope, applied in Type IV (or appropriate type) asphalt, per inch of depth.**

8.2.16.1 Use 1/8" tapered iso-board (black facer) that meets or exceeds HH-I-1972/GEB and HH-I-1972/2 fire approval Class I and labeled with UL/FM labels.

8.2.16.2 Steep or appropriate Asphalt, Type IV meeting ASTM D 312-89, applied at a rate of 30 lbs. per 100 square feet.

8.2.16.3 Install tapered insulation.

8.2.16.4 Insulation shall have a minimum thickness of 1" at any point on the deck and must be tapered when laid in a manner to eliminate ponding and allow for positive drainage.

8.2.16.5 Set insulation in a continuous mopping of asphalt, applied at a rate of 30 lbs. per 100 square feet.

8.2.16.6 Embed insulation into asphalt, leaving no voids or loose boards. Any joint over 1/4" must be filled.

8.2.16.7 Apply asphalt at rate of 30 lbs. per 100 square feet; asphalt shall be at no more than 500°F and applied between 400-475°.

8.2.16.8 Apply in continuous mopping; don't set boards in cold asphalt.

8.2.17 **Roof deck insulation, Isocyanurate (black facer only), tapered, 1/4" per foot slope, applied in Type IV (or appropriate) asphalt, per inch of depth.**

8.2.17.1 Use 1/4" tapered iso-board (black facer) that meets or exceeds HH-I-1972/GEB and HH-I-1972/2 fire approval Class I and labeled with UL/FM labels.

8.2.17.2 Steep or appropriate Asphalt, Type IV meeting ASTM D 312-89, applied at a rate of 30 lbs. per 100 square feet.

8.2.17.3 Install tapered insulation.

8.2.17.4 Insulation shall have a minimum thickness of 1" at any point on the deck and must be laid in a manner to eliminate ponding and allow for positive drainage.

8.2.17.5 Set insulation in a continuous mopping of asphalt.

8.2.17.6 Embed insulation into asphalt, leaving no voids or loose boards. Any joint over 1/4" must be filled.

8.2.17.7 Apply asphalt at rate of 30 lbs. per 100 square feet; asphalt shall be at no more than 500°F and applied between 400-475°.

8.2.17.8 Apply in continuous mopping; don't set boards in cold asphalt.

8.2.18 **Cold insulation adhesive.**

8.2.18.1 Cold insulation adhesive is for places where the deck is exposed on underside or where hot adhesive or mechanical attachment is not desirable.

8.2.18.2 Adhesive for fiberboard, fiberglass and Isocyanurate insulating boards.

8.2.18.3 Nominal 100% solid, moisture curing, asphaltic urethane adhesive for use in adhering insulation and base sheets in bur systems. Must be 8.5 lbs./gallon, have 200 psi tensile strength (see ASTM D 412-87); shall pass the Cold Brittleness of ASTM D 81692 at -60° F.

8.2.18.4 Prime surface to receive adhesive with water-based primer.

8.2.18.5 Allow primer to dry.

8.2.18.6 Apply at rate of 1 to 1.5 gallons per 100 square feet.

8.2.18.7 Install base sheet or insulation per manufacturer's printed directions, as needed.

8.2.19 **CDX Gypsum 1/4" x 4' x 8', mechanically attached or set into adhesive.**

8.2.19.1 Install per manufacturer's instructions.

8.2.20 **CDX Gypsum 1/2" x 4' x 8', mechanically attached or set into adhesive.**

8.2.20.1 Install per manufacturer's instructions.

8.2.21 **CDX Gypsum with fiberglass facer: 1/4" x 4' x 8', mechanically attached or set into adhesive.**

8.2.21.1 Install per manufacturer's instructions.

8.2.22 **CDX Gypsum with fiberglass facer: 1/2" x 4' x 8', mechanically attached or set into adhesive.**

8.2.22.1 Install per manufacturer's instructions.

8.3 **Roof Tiles and Shingles**

8.3.1 **Remove composition shingles and felts to decking (test for asbestos prior to removal).**

8.3.1.1 Remove existing felts, shingles and fasteners down to roof deck.

8.3.1.2 Remove all debris from job site and dispose of in an approved landfill.

8.3.1.3 Be sure all debris is removed from deck and in any area litter might settle.

8.3.1.4 All demolition work must comply with OSHA, NCRA, EPA, and local building codes and regulations.

8.3.1.5 If applicable, remove all fasteners from decking.

8.3.1.6 Inspect deck and repair any defects as permitted in contract.

8.3.1.7 Install one layer of 15 lb. felt after above work is accomplished [felt, 15 lbs., meets ASTM D 221-78, Type IV and must carry UL labels].

8.3.1.8 On slopes above 3:12 but below 4:12, install two layers of 15 lb. felt (repeat 3.3.1.1 through 3.3.1.8, as necessary).

8.3.2 **Remove clay, concrete, or slate roof tiles to decking.**

8.3.2.1 Remove existing felts, tiles and/or shingles down to roof deck. Keep and stockpile reusable tiles, upon request of buyer.

8.3.2.2 Remove all debris from job site and dispose of in an approved landfill.

8.3.2.3 Be sure all debris is removed from deck and in any area litter might settle.

8.3.2.4 All demolition work must comply with OSHA, NCRA, EPA, and local building codes and regulations.

8.3.2.5 If applicable, remove all fasteners from decking.

8.3.2.6 Inspect deck and repair any defects as permitted in contract.

8.3.2.7 Install one layer of 30 lb. felt after above work is accomplished [felt, 30 lbs., meets ASTM D266-89, Type II and must carry UL labels].

8.3.3 **Remove wood shingles and felts to decking.**

8.3.3.1 Remove existing felts and shingles down to roof deck.

8.3.3.2 Remove all debris from job site and dispose of in an approved landfill.

8.3.3.3 Be sure all debris is removed from deck and in any area litter might settle.

8.3.3.4 All demolition work must comply with OSHA, NCRA, EPA, and local building codes and regulations.

8.3.3.5 If applicable, remove all fasteners from decking.

8.3.3.6 Inspect deck and repair any defects as permitted in contract.

8.3.3.7 Install one layer of 30 lb. felt after above work is accomplished [felt, 30 lbs., meets ASTM D266-89, Type II and must carry UL labels].

8.3.4 **Shingles, fiberglass, Class A, 25-year strip shingles, slopes 3:12 or greater.**

8.3.4.1 Fiberglass singles shall meet or exceed ASTM D 3018, Type I, carry UL, Class A and wind uplift labels, have hip and ridge factory pre-cut (where applicable). Nails are to be hot galvanized, 11 or 12-gauge, barb shank, 3/8" heads, sharp pointed and of sufficient length to penetrate at least 3/4" into decking. Use six nails per shingle; staples are not permitted.

8.3.4.2 Customer picks color.

8.3.4.3 Bituminous plastic cement shall meet or exceed Federal Specifications SS-C-153C, Type I, Class A, and shall be asbestos free.

8.3.4.4 On slopes 4:12 or greater, felt shall be 15 lbs. organic that meets ASTM D 226-89, Type I, and carry UL labels. On slopes 3:12 or greater but less than 4:12, install two layers of 15-lb. felt.

8.3.4.5 Inspect deck after old roof removal and repair any defects.

8.3.4.6 Install base felts and valley felts.

8.3.4.7 Install shingles per manufacturer's specifications.

8.3.4.8 If roof slopes less than 4" per 12", the installation requires a double layer of 15-lb. asphalt felt prior to application of shingles. [Unit price includes one layer of underlayment. If a second layer is required, it will be treated as a separate line item. A single layer of a 30 lb. coated organic base sheet may be installed in lieu of 15 lb. felts, when required.]

8.3.4.9 In high snow areas, use two each 30 lb. asphalt felts in lieu of 15 lb. felts.

8.3.4.10 Eave metal shall be 2" x 2", 26 gauge galvanized, unpainted. (need price line)

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

8.3.4.11 In high wind areas, use 3" x 2", 24 gauge galvanized, unpainted eave metal. (need price line)

8.3.4.12 In ice and snow country, install ice and water shield to a point two feet inside wall line at eaves, or as required by local code if it is more stringent. (need price line)

8.3.4.13 Warranty is to be prorated, labor and materials, for the length of the warranty period.

8.3.5 **Shingles, fiberglass, Class A, 30-year, premium laminated multilayered shingles, slopes 3:12 or greater.**

8.3.5.1 Fiberglass singles shall meet or exceed ASTM D 3018, Type I, carry UL, Class A and wind uplift labels, have hip and ridge factory pre-cut (where applicable). Nails are to be hot galvanized, 11 or 12-gauge, barb shank, 3/8" heads, sharp pointed and of sufficient length to penetrate at least 3/4" into decking. Use six nails per single; staples are not permitted.

8.3.5.2 Customer picks color.

8.3.5.3 Bituminous plastic cement shall meet or exceed Federal Specifications SS-C-153C, Type I, Class A, and shall be asbestos free.

8.3.5.4 On slopes of 4:12 or greater, felt shall be 15 lbs. organic that meets ASTM D 226-89, Type I, and carry UL labels.

8.3.5.5 Inspect deck after old roof removal and repair any defects.

8.3.5.6 Install base felts and valley felts.

8.3.5.7 Install shingles per manufacturer's specifications.

8.3.5.8 On slopes 3:12 but less than 4:12, the installation requires a double layer of 30-lb. asphalt felt prior to application of shingles. [Unit price includes one layer of underlayment. If a second layer is required, it will be treated as a separate line item. A single layer of a coated organic base sheet may be installed in lieu of 15-lb. felt, when required.]

8.3.5.9 In high snow areas, use two each 30 lb. asphalt felts in lieu of 15 lb. felts.

8.3.5.10 Eave metal shall be 2" x 2", 26 gauge galvanized, unpainted. (need price line)

8.3.5.11 In high wind areas, use 3" x 2" 24 gauge galvanized, unpainted eave metal. (need price line)

8.3.5.12 In ice and snow country, install ice and water shield to a point two feet inside wall line at eaves, or as required by local code if it is more stringent. (need price line) 9.3.5.13 Warranty is to be prorated, labor and materials, for the length of the warranty period.

8.3.6 **Replacement of clay or concrete roof tiles.**

8.3.6.1 Tile shall be of quality, finish, color, size and shape to match existing, or as selected by the customer.

8.3.6.2 Nails for tiles and cleats shall be copper, 11-gauge, large head and long enough to penetrate 3/4" into deck.

8.3.6.3 Flashing shall be 16 oz. copper.

8.3.6.4 Mortar shall be one-part Portland cement, 4 parts sand and color matched to tile.

8.3.6.5 Plastic cement shall meet or exceed ASTM D 2822 and Federal Specification SS-C-153, Type I.

8.3.6.6 Sealant shall be silicone to meet or exceed ASTM D 1002 or ASTM D 42.

8.3.6.7 Begin installation only after verifying physical and environmental conditions are acceptable to accomplish work.

8.3.6.8 Install 40 lb. underlayment on slopes 4:12 or greater; install two 40 lb. underlayment on slopes less that 4:12 (or a 2-mil SBS modified sheet). Follow local codes for eaves, overhangs, and ice/snow conditions. In no case shall the underlayment be less that the manufacturer's specifications. Lay the felt underlayment horizontally; lap at least 4" over valley and gutter metal; turn up 6" against all abutting vertical surfaces where possible and extend without break over hips and ridges.

8.3.6.9 Nail each sheet along the edges, which will be covered by the lap of the next sheet; lap the sheet 3" at sides and 6" at ends and cement together.

8.3.6.10 Tile shall be laid in regular courses parallel with the eaves and no attempt made to stretch the courses. The courses shall be accurately spaced to finish even and parallel at the top of all level terminations.

8.3.6.11 When the slopes of the abutting roof surfaces are at the same pitch, the courses shall give a continuity of line across valleys and around hips. Valleys shall be open 6" wide between tiles. Fit the tiles closely at hips and ridges and around vent pipes, ventilators, and other projections through the roof.

8.3.6.12 Every piece of tile shall be secured by at least one fastening; Spanish tile shall have two, unless impractical. Where nailing is not possible, or to avoid nailing through sheet metal, use wire attached to nails driven above the metal line or to other permanent fastenings and set the tile in elastic cement. All tile shall be laid with an end lap of at least 3". Eave closures of pan and cover tile shall be recessed at least 1 1/2" from the lower end of the tile.

8.3.6.13 Hips and ridges shall have roll cover tile with closed hip starters and plain terminals. Field tile that verge along hips and valleys shall be cut before turning and valley tile shall have closed ends. Top fixtures shall be furnished at deck and ridge and at the lower side of abutting vertical surfaces. Gables shall have end bands; gable rakes and closed gable ends at ridge.

8.3.6.14 The lap of end bands, or cover tile on hips and ridges, of gable rakes to end bands and field tiles, and the spaces between field tiles and hip stringers shall be filled with elastic cement. A limited amount of elastic cement may be used for leveling tile and for pointing around eave closures and top fixtures.

8.3.6.15 All intersections of roofs with vertical surfaces of every kind and all openings in roof surfaces shall be flashed and counterflashed. Flashings shall turn up no less than 6" against abutting vertical surfaces where possible and shall be in as long lengths as practical. On slopes, they shall lap longitudinally not less than 3". Elsewhere the joints shall be flat-locked and soldered. Laps and locks shall be in the direction of water flow; ridges and deck molds shall be flashed over the wood stringers. Exposed bottom edges of all flashings shall be doubled under about 1/2" to straight lines.

8.3.6.16 At vertical surfaces along slopes, the flashings shall extend under the tile at least 4 1/2" with an upturned edge as high as the contour of the tile will permit. At the upper side of vertical surfaces, the flashings shall extend under the tile to the nails, with the upper edges turned back

1/2". Flashings at the lower side of vertical surface and the flashings of ridges and deck molds shall extend onto the roof tiles and top fixtures at least 4 1/2" and be bent down for stiffness.

8.3.6.17 At corners and projections through the roof, the intersecting base flashings shall be lapped or locked, and the joints sweated with solder. Base flashings at the sides, which are normal to the tile courses, shall spill onto the roofing below.

8.3.6.18 Flashings at the sills of openings, which are not counterflashed, shall extend under the sills of the frames and turn up at least 3/4" at the back edges.

8.3.6.19 Base flashings at the curbs of roof openings, which are not counterflashed, shall turn over the tops of the curbs and be fastened on the inside by locking to continuous cleats of the same metal which shall be fastened every 4" to the curbs.

8.3.6.20 At low parapets and termination when not using step flashings, use 2.5-lb. lead flashing. Peen to fit tiles; use 2.5 lead stack flashings. (need prices for each)

8.3.6.21 Summary Note: remove existing tiles, carefully to avoid breakage. Stockpile existing clay or concrete roof tiles. Install a new 40 lb. inorganic asphalt felt underlayment; make minor repairs to the existing flashings, then replace shingles in accordance with above specifications. New flashing installation will be done under a separate line item.

8.3.7 **Waterproofing sheet for shingles tiles, metal waterways, etc.**

8.3.7.1 Use a flexible, waterproof membrane, SBS modified, reinforced with a perm rating of .05 perms (ASTM E 96). Minimum weight, 31 lbs./100 s/f and minimum break strength, 130 lbf/in.

8.3.7.2 Sheet may be mechanically attached, set in adhesive, or have a peel-off backing.

8.3.7.3 Materials used must be acceptable to the manufacturer providing the warranty.

8.4 **Roofing and Roof Restoration**

8.4.1 **Remove built-up roof, multi-ply with aggregate, non-asbestos, one inch thick or less.**

8.4.1.1 Remove existing roofing down to roof deck or insulation.

8.4.1.2 Daily remove all debris from job site and dispose of in an approved landfill.

8.4.1.3 Be sure all debris is removed from deck and in any area litter might settle.

8.4.1.4 All demolition work must comply with OSHA, NCRA, EPA, and local building codes and regulations.

8.4.1.5 If applicable, remove all fasteners from decking.

8.4.1.6 Spud embedded aggregate.

8.4.1.7 Using roofing spades, maddox or mechanical device, remove embedded gravel from roof membrane.

8.4.1.8 Sweep loose aggregate from roof membrane.

8.4.1.9 Remove all loose gravel from roof membrane by power broom and dispose of collection in approved dump, or as directed by owner.

8.4.1.10 Wet vacuum loose aggregate from roof membrane; prime substrate.

8.4.1.11 Using mechanical wet vacuum, remove all loose rock and debris from roof membrane.

8.4.1.12 Prime substrate: clean roof or substrate removing all dirt and debris prior to priming.

8.4.1.13 Prime using asphaltic primer at the rate of one gallon to 100-150 square feet; allow to dry.

8.4.2 **Remove single-ply roof: ballast, and membrane only.**

8.4.2.1 Remove existing ballast from surface or roof membrane using manual labor, roof vac or mechanical means.

8.4.2.2 Do not pile ballast in piles that would exceed load limit on total roof system.

8.4.2.3 All ballast to be removed by use of closed chute or mechanically. Do not throw from roof into truck or dumpster.

8.4.2.4 Cut single-ply membrane into pieces small enough so they can safely be removed.

8.4.2.5 Dispose of single-ply membrane in approved dumpsite.

8.4.2.6 Prime contractor is responsible to determine local regulations for disposal of roof materials.

8.4.2.7 Do not remove more membrane than can be replaced or dried in daily, especially in monsoon season.

8.4.3 **Remove single-ply roof, membrane partially or fully adhered.**

8.4.3.1 Cut single-ply membrane into pieces that are no larger than can safely be removed.

8.4.3.2 Dispose of membrane in approved dumpsite.

8.4.3.3 Prime contractor is responsible to determine local regulations for disposal of roof materials.

8.4.3.4 Do not remove more membrane than can be replaced or dried in daily.

8.4.4 Remove single-ply roof, membrane mechanically attached.

8.4.4.1 Cut single-ply membrane into pieces that are no larger than can safely be removed.

8.4.4.2 Using screw gun or drill motor, remove fasteners. Dispose of leftovers in approved dumpsite.

8.4.4.3 Prime contractor is responsible to determine local regulations for disposal of roof materials.

8.4.4.4 Do not remove more membrane than can be replaced or dried in daily.

8.4.5 **Remove copper sheet roofing.**

8.4.5.1 Use 15 lb. building paper, FS HH-R-595-B, Type 15A, Style B, ASTM 226-77, unperforated. Nails to be hot dipped, galvanized, 11 or 12-gauge, smooth shank, 1" square metal heads, at least 1" long for dry in.

8.4.5.2 Remove specified roofing using the finest equipment and tools for the job. Remove and dispose of all felts, flashings, battens, and counterflashing, as required.

8.4.5.3 Barricade and protect the property (to avoid lawsuits from unhappy parents or teachers).

8.4.5.4 All work, including use of building paper, to be coordinated with the owner's representative.

8.4.5.5 All demolition work and disposal of debris must comply with OSHA, NCRA, EPA, and local building codes and regulations; fall protection as required.

8.4.6 **Base sheet, 3-ply fiberglass, Type IV (or appropriate Type) asphalt (17-year roof).**

8.4.6.1 Water-based asphalt primer that meets ASTM D 3960-87.

8.4.6.2 Asphalt, Type IV (or appropriate Type) steep to meet UL, Class A, ASTM D 312-84.

8.4.6.3 Fiberglass base sheet, Type G-2, ASTM D 4601-86, high performance, weight, 33 lbf/100 s/f, tensile break strength 90 lbs./lbf in MD, 70 lbs./lbf in XD.

8.4.6.4 Fiberglass ply sheet, Type IV, ASTM D 2178.

8.4.6.5 Prime exiting surface with primer specified at a rate of 150-200 square feet per gallon, when required (prime is a separate line item).

8.4.6.6 Continuously mop base sheet and three plies of specified fiberglass ply sheets with interply asphalt at a rate of 25 lbs. per square per ply. Felts to be installed according to manufacturer's specifications.

8.4.6.7 Top surfacing as specified elsewhere.

8.4.7 **Base sheet, 4-plies fiberglass, mechanically attached (17-year roof).**

8.4.7.1 Fiberglass base sheet, Type G-2 to meet ASTM D 4601-86, high performance weight, 33 lb. per 100 s/f, break strength 90 lbf/in. in MD and 70 lbf/in in XM; fiberglass plies sheets, Type IV.

8.4.7.2 Mechanical fasteners for wood decks, 1" ringed shank nails with 1" capped head as made by Maze or Simplex; for wood fiber decks, Olympic GTL fasteners or approved equal; light weight deck, Olympic base ply fastener, Tremco/Olympic base ply fastener, Zonolite base ply fastener or approved equal.

8.4.7.3 Starting at low point, install specified base sheet to deck using approved fasteners in accordance with FM I-90 wind uplift requirements.

8.4.7.4 Regularly mop four plies of specified fiberglass ply sheets with interply asphalt applied at the rate of 25 lbs. per square per ply, following manufacturer's instruction.

8.4.7.5 Top surfacing as specified elsewhere.

8.4.8 **Fiberglass cap finishing membrane**

8.4.8.1 Install over hot-applied multi-ply BUR assembly in Type IV (or appropriate Type) asphalt.

8.4.8.2 Apply as per manufacturer's instruction.

8.4.9 **Base sheet with 2 plies, fiberglass felts, Type IV asphalt (or appropriate type).**

8.4.9.1 Materials include primer; fiberglass base sheet, Type G-2, to meet ASTM D 4601-86, high performance, weight, 33 lb. per 100 s/f, break strength 90 lbf/in. in MD and 70 lbf/in. in XM; Type VI fiberglass felts that meet or exceed ASTM D 2178-88, Type VI; asphalt Type IV steep (or appropriate type), UL, Class A, ASTM D-312-84.

8.4.9.2 Prepare substrate as required by prime contractor.

8.4.9.3 Continuously mop base sheet and plies of fiberglass base sheet.

8.4.9.4 Plies are to be adhered with approved asphalt at the rate of 25 lbs. per square per ply.

8.4.9.5 All felts are to be broomed when applied.

8.4.9.6 Fishmouths, voids, wrinkles and other disfigurements will not be accepted.

8.4.9.7 Extend all plies 1" or 2" above cant and seal.

8.4.9.8 Prime contractor must approve final roofing system.

8.4.9.9 Final system must carry UL, Class A, and FM I-90 approvals and insulation attachment patterns when insulation has been used.

8.4.9.10 Top surfacing as specified elsewhere.

8.4.10 **Base sheet with 3 plies, fiberglass felts, Type IV asphalt (or appropriate Type).**

8.4.10.1 Materials include primer; fiberglass base sheet, Type G-2, to meet ASTM D 4601-86, high performance, weight, 33 lb. per 100 s/f, break strength 90 lbf/in. in MD and 70 lbf/in in XM; Type VI fiberglass felts that meet or exceed ASTM D 2178-88, Type VI; asphalt Type IV steep (or appropriate Type), UL, Class A, ASTM D-312-84.

8.4.10.2 Prepare substrate as required by prime contractor.

8.4.10.3 Continuously mop base sheet and plies of fiberglass ply sheets.

8.4.10.4 Plies are to be adhered with approved asphalt at the rate of 25 lbs. per square per ply.

8.4.10.5 All felts are to be broomed when applied.

8.4.10.6 Fishmouths, voids, wrinkles and crinkles will not be accepted.

8.4.10.7 Extend all plies 1" above cant and seal.

8.4.10.8 Prime contractor must approve final roofing system.

8.4.10.9 Final system must carry UL, Class A, and FM I-90 approvals and insulation attachment patterns when insulation has been used.

8.4.10.10 Top surfacing as specified elsewhere.

8.4.11 **Base sheet mechanically attached with 4 plies, Type VI fiberglass felts, Type IV (or appropriate Type) asphalt.**

8.4.11.1 Materials include primer; fiberglass base sheet, Type G-2, to meet ASTM D 4601-86, high performance weight, 33 lb. per 100 s/f, break strength 90 lbf/in. in MD and 70 lbf/in. in XM; Type VI fiberglass felts that meet or exceed ASTM D 2178-88; UL listed fiberglass.

8.4.11.2 Prepare substrate as required by prime contractor.

8.4.11.3 Mechanical fasteners for wood decks, 1" ringed shank nails with 1" capped head as made by Maze or Simplex; for wood fiber decks, Olympic GTL fasteners or approved equal; lightweight deck, Olympic base ply fastener, Tremco/Olympic base ply fastener, Zonolite base ply fastener or approved equal. (add necessary price lines)

8.4.11.4 Starting at low point, install specified base sheet to deck using approved fasteners in accordance with FM I-90 wind uplift requirements.

8.4.11.5 Regularly mop four plies of specified fiberglass ply sheets with interply asphalt applied at the rate of 25 lbs. per square per ply, following manufacturer's instruction.

8.4.11.6 Top surfacing as specified elsewhere.

8.4.11.7 Final system must carry UL, Class A, and FM I-90 approvals and attachment patterns for base sheet.

8.4.12 **Nailed base sheet, 3 plies Type VI fiberglass felts, fiberglass cap, Type IV (or appropriate Type) asphalt.**

8.4.12.1 Materials include fiberglass base sheet, Type G-2, to meet ASTM D 4601-86, high performance, weight, 33 lb. per 100 s/f, break strength 90 lbf/in. in MD and 70 lbf/in. in XM; ply sheet, G-1, Type VI; asphalt Type IV steep (or appropriate Type), UL, Class A, ASTM D-312-84.

8.4.12.2 Prepare substrate as required by prime contractor.

8.4.12.3 Nail base sheet per manufacturer's instruction.

8.4.12.4 Plies are to be adhered with approved asphalt at the rate of 25 lbs. per square per ply.

8.4.12.5 All felts are to be broomed when applied.

8.4.12.6 Fishmouths, voids, wrinkles and puckers will not be accepted.

8.4.12.7 Extend all plies 1" above cant and seal.

8.4.12.8 Prime contractor must approve final roofing system.

8.4.12.9 Final system must carry UL, Class A, and FM I-90 approvals.

8.4.12.10 Top surfacing as specified elsewhere.

8.4.13 **Base sheet with 4 plies; 2 polyester and 2 fiberglass felts, Type IV (or appropriate Type) asphalt (20-year roof).**

8.4.13.1 Materials include primer; fiberglass base sheet, Type G-2, to meet ASTM D 4601-86, high performance weight, 33 lb. per 100 s/f, break strength 90 lbf/in. in MD and 70 lbf/in in XM; polyester ply sheets, continuous filament, heat resistant, spun bonded polyester to meet Federal Test Method 101-2031 for punctures, ASTM D 737-75 for permeability, weight to be minimum 3.1 lbs./100 square feet as in ASTM D 312-84; Type VI fiberglass felts that meet or exceed ASTM D 2178-88, Type VI; asphalt Type IV steep (or appropriate Type), UL, Class A, ASTM D-312-84.

8.4.13.2 Prepare substrate as required by prime contractor.

8.4.13.3 Continuously mop base sheet and four plies (two plies of polyester and two plies of fiberglass felts). Felts are to be installed in shingle fashion.

8.4.13.4 Plies are to be adhered with approved asphalt at the rate of 25 lbs. per square per ply.

8.4.13.5 All felts are to be broomed when applied.

8.4.13.6 Fishmouths, voids, wrinkles and other ugliness will not be accepted.

8.4.13.7 Extend all plies 1"-2" above cant and seal.

8.4.13.8 If required, install glaze coat of asphalt at the rate of 15 lbs. per square.

8.4.13.9 Prime contractor must approve final roofing system, and then surface is topped. Top surfacing as specified elsewhere.

8.4.13.10 **Final system must carry UL, Class A, and FM I-90 approvals and attachment patterns for base ply.**

8.4.14 **Built-up roof, base sheet with 3 plies polyester roofing sheet, Type IV (or appropriate Type) asphalt (20-year roof).**

8.4.14.1 Materials include primer; fiberglass base sheet, Type G-2, to meet ASTM D 4601-86, high performance weight, 33 lb. per 100 s/f, break strength 90 lbf/in. in MD and 70 lbf/in in XM; polyester ply sheets, continuous filament, heat resistant, spun bonded polyester to meet Federal Test Method 101-2031 for punctures, ASTM D 737-75 for permeability, weight to be minimum 3.1 lbs./100 square feet as in ASTM D 312-84; asphalt Type IV steep (or appropriate Type), UL, Class A.

8.4.14.2 Prepare substrate as required by manufacturer.

8.4.14.3 Continuously mop base sheet and three plies of heat stabilized polyester with interply mopping of Type IV asphalt (or appropriate Type) at the rate of 25 lbs. per square per ply.

8.4.14.4 Plies are to be installed shingle fashion.

8.4.14.5 All felts are to be broomed when applied. Do not walk on felts.

8.4.14.6 Fishmouths, voids, wrinkles and other irregularities will not be accepted.

8.4.14.7 Extend all plies 1" above cant and seal edges.

8.4.14.8 If required, install glaze coat of asphalt at the rate of 15 lbs. per square.

8.4.14.9 Prime contractor must approve final roofing system, and then surface is topped. Top surfacing as specified elsewhere.

8.4.14.10 Final system must carry UL, Class A, and FM I-90 approvals and attachment patterns for base ply.

8.4.15 **Built-up roof, base sheet with 3 plies Type G2 fiberglass, cold process adhesive (20year roof).**

8.4.15.1 Fiberglass base ply, 33 lb., Type G-2, to meet ASTM D 4601-86, high performance weight, 33 lb. per 100 s/f, break strength 90 lbf/in. in MD and 70 lbf/in in XM, approved by manufacturer.

8.4.15.2 Cold asphalt adhesive, UL approved, applied at 3 gallons per 100 square feet, inner ply. Must meet SCAQMD VOC limits and contain no asbestos as per ASTM D 276-87.

8.4.15.3 Top surfacing as specified elsewhere.

8.4.15.4 Install base plus three plies with cold asphalt adhesive at the rate of 3 gallons per square per ply.

8.4.15.5 Plies to extend to top of cants and nail 8" o.c.

8.4.15.6 Wood nailers to provide membrane termination. Nail per prime contractor.

8.4.15.7 Manufacturer must approve final system.

8.4.16 **Built-up roof, base sheet plus 4 plies Type G2 fiberglass, cold process adhesive (30year roof).**

8.4.16.1 Fiberglass base ply, 33 lb., Type G-2, to meet ASTM D 4601-86, high performance weight, 33 lb. per 100 s/f, break strength 90 lbf/in. in MD and 70 lbf/in in XM, tensile 80 psi, approved by manufacturer.

8.4.16.2 Cold asphalt adhesive, UL approved, applied at 3 gallons per 100 square feet, inner ply. Must meet SCAQMD VOC limits and contain no asbestos as per ASTM D 276-87.

8.4.16.3 Top surfacing as specified elsewhere.

8.4.16.4 Install base plus four plies with cold asphalt adhesive at the rate of 3 gallons per square per ply.

8.4.16.5 Plies to extend to top of cants and nail 8" o.c.

8.4.16.6 Wood nailers to provide membrane termination. Nail per prime contractor.

8.4.16.7 Final system must carry UL, Class A, and FM I-90 approvals.

8.4.17 **Built-up roof, base sheet, 1 ply Type VI fiberglass, 1 ply modified bitumen sheet, fire rated, Type IV asphalt (15-year roof).**

8.4.17.1 Fiberglass base ply, 33 lb., Type G-2, to meet ASTM D 4601-86, high performance weight, 33 lb. per 100 s/f, break strength 90 lbf/in. in MD and 70 lbf/in in XM, approved by manufacturer.

8.4.17.2 Asphalt, Type IV steep (or appropriate Type), UL class A, ASTM D 312-84.

8.4.17.3 Type VI Fiberglass felts, ASTM D 2178-88A; modified bitumen sheet, SBS elastomers with reinforcement. Thickness: 0.160', ASTM D 751-89. Tensile strength, 148 MD and 122 CD lbf/in., ASTM D 2523-84 at 0°F. Puncture meets FTMS 101C 2031 (modified).

8.4.17.4 Prepare substrate as required by prime contractor.

8.4.17.5 Continuously mop base sheet, ply sheet and modified bitumen sheet into specified bitumen, Type IV, ASTM D 312.

8.4.17.6 Install base sheet and roofing ply starting at low point in shingle fashion with asphalt at rate of 25 lbs. per square per ply.

8.4.17.7 Broom felts with broom.

8.4.17.8 Install modified bitumen sheet in hot asphalt at a rate of 23 lbs. per 100 square feet. Roll edge to ensure positive bond. Broom out air pockets and voids at application; end lap 12" and staggered 3' minimum. Head lap 4".

8.4.17.9 Top surface to be granule unless noted by line item on work order.

8.4.17.10 Final system must carry UL, Class A, and FM I-90 approvals.

8.4.18 **Built-up roof, base sheet, 2 ply polyester roofing sheet, 1 ply modified bitumen sheet, fire rated, Type IV asphalt (or appropriate Type), (20-year roof).**

8.4.18.1 Fiberglass base ply, 33 lb., Type G-2, to meet ASTM D 4601-86, high performance weight, 33 lb. per 100 s/f, break strength 90 lbf/in. in MD and 70 lbf/in in XM, approved by manufacturer.

8.4.18.2 Asphalt, Type IV steep (or appropriate Type), UL class A, ASTM D 312-84; Polyester ply sheet, continuous filament, heat resistant, spun bonded polyester, to meet Federal Test Method 101C-2031 for punctures, ASTM D 737-75 for permeability. Weight to be minimum 3.1 lb./in MD-240 lbf/in. XM ASTM D 2523-84 puncture 101C-2031 (modified).

8.4.18.3 Modified bitumen sheet, SBS elastomers with reinforcement. Thickness: 0.160', ASTM D 751-89; Tensile strength, 148 MD and 122 CD lbf/in., ASTM D 2523-84 at 0°F. Puncture meets FTMS 101C 2031 (modified).

8.4.18.4 Prepare substrate as required by prime contractor.

8.4.18.5 Continuously mop base sheet, ply sheet and modified bitumen sheet into specified bitumen, Type IV, ASTM D 312.

8.4.18.6 Install base sheet and roofing ply starting at low point in shingle fashion with asphalt at rate of 25 lbs. per square per ply.

8.4.18.7 Install ply sheets in continuous mopping of asphalt. Broom plies as applied and be sure ply has total adhesion and bleed through.

8.4.18.8 Install modified bitumen sheet in hot asphalt at a rate of 23 lbs. per 100 square feet. Roll edge to ensure positive bond. Broom out air pockets and voids at application; end lap 12" and staggered 3' minimum. Head lap 4".

8.4.18.9 Extend plies to top of cants and seal. Fishmouths, voids, wrinkles and other irregularities will not be accepted.

8.4.18.10 Top surface to be granules unless noted by line item on work order. 9.4.18.11 Final roofing system must carry UL, Class A, and FM I-90 approvals.

8.4.19 **Built-up roof, base sheet, G-2, 33 lb., mechanically attached.**

8.4.19.1 Fiberglass base ply, 33 lb., Type G-2, ASTM D 4601-86 average tensile, 80 psi, approved by manufacturer.

8.4.19.2 Nail to substrate to FM I-90 design standards.

8.4.20 **Built-up roof, base sheet, G-2, 33 lb., Type IV asphalt.**

8.4.20.1 Fiberglass base ply, 33 lb., Type G-2, ASTM D 4601-86 average tensile, 80 psi, approved by manufacturer.

8.4.20.2 Apply asphalt into uniform and continuous mopping at a rate of 25-lbs./100 s/f.

8.4.21 **Built-up roof, premium asphalt, added cost per ply per square foot.**

8.4.21.1 Premium IV asphalt, ASTM D 312-89, high quality steep asphalt (appropriate type), process from highly monitored asphalt flux.

8.4.21.2 Apply Premium IV asphalt where specified by work order at minimum rate of 25 lbs. per square per ply.

8.4.22 **Built-up roof, modified bitumen adhesive, added cost per ply per square foot.**

8.4.22.1 Modified bitumen adhesive, a polymer formulation applied as a hot melt adhesive, made of unblown asphalt and modified with selected polymers. Must be both UL and FM approved. Elongation at 77°F, 1000%. ASTM D 412-87.

8.4.22.2 Apply modified bitumen adhesive in place of asphalt where specified in work order.

8.4.22.3 Interply rate minimum 27 lbs. per 100 square feet.

8.4.22.4 Manufacturer on each system must approve results.

8.4.23 **Built-up roof, surface with cold asphaltic surfacing adhesive and gravel.**

8.4.23.1 Cold asphalt adhesive, UL approved. Must meet SCAQMD VOC limits and contain no asbestos as per ASTM D 276-87. Density at 77°F, 8.2 lb./gallon, ASTM D 2196-81. Non-volatile content 75%, ASTM D 4496-81. VOC 240 q/l, ASTM D 3960-89.

8.4.23.2 Prime if required by work order or if work surface has been contaminated.

8.4.23.3 Roof gravel, size 6, ASTM 1863-86.

8.4.23.4 If on work order, prime roof surface with asphalt primer.

8.4.23.5 Apply flood coat of asphalt adhesive at 5 gallons per 100 square feet.

8.4.23.6 Broadcast roof gravel at rate of 500 lbs. per square.

8.4.23.7 Rake gravel smooth.

8.4.23.8 Completed system must have UL 790 Class A rating.

8.4.24 **Built-up roof, surface with emulsion and granules.**

8.4.24.1 If on work order, use primer.

8.4.24.2 Use high performance rubberized emulsion and #11 white ceramic roof granules.

8.4.24.3 Asbestos content, none. Density at 77°F 8.4 lb./gallon, ASTM D 1475-90. Residue by evaporation 50%, ASTM 2939-94. Ash content 4.0% of total sample, ASTM D 2939-92. Tensile at 77°F, minimum 45 psi, ASTM D 12-92. Elongation at 77°F, minimum 200%, ASTM D 412-92. MVT 4 g/100 square inches/24 hours, ASTM E 398-83.

8.4.24.4 Apply emulsion to roof surface at rate of 4 gallons per square.

8.4.24.5 Promptly install ceramic roof granules into emulsion at rate of 80 lbs. per square.

8.4.25 **Built-up roof, surface with emulsion and aluminum coating.**

8.4.25.1 If on work order, use primer.

8.4.25.2 Use high performance rubberized emulsion.

8.4.25.3 Asbestos content, none. Density at 77°F 8.4 lb./gallon, ASTM D 1475-90. Residue by evaporation 50%, ASTM 2939-94. Ash content 4.0% of total sample, ASTM D 2939-92. Tensile at 77°F, minimum 45 psi, ASTM D 12-92. Elongation at 77°F, minimum 200%, ASTM D 412-92. MVT 4 g/100 square inches/24 hours, ASTM E 398-83.

8.4.25.4 Apply emulsion to roof surface at rate of 4 gallons per 100 square feet and let cure for 30 days.

8.4.25.5 Install aluminum reflective coating to roof surface at rate of 1 gallon per 150 square feet. Two coats required. Asbestos content, none. Density at 77°F, 7.95 lbs./gallon, ASTM D 1475-90. Non-volatile matter, minimum 48%, ASTM D 1644-93. Metallic aluminum, minimum 11%, ASTM D 2824-85. VOC 478 q/l, ASTM 3460-93.

8.4.26 **Built-up roof, surface with emulsion and white elastomeric coating.**

8.4.26.1 Water-based asphalt primer, if required on work order.

8.4.26.2 High performance, high solids, reflective, fire retardant coating.

8.4.26.3 Prime roof, if conditions require priming. See priming line item.

8.4.26.4 Apply emulsion to roof surface at rate of .75 gallons per 100 square feet and let cure, per manufacturer's recommendation. Asbestos content, none. Density at 77°F 8.4 lb./gallon, ASTM D 1475-90. Residue by evaporation 50%, ASTM 2939-94. Ash content 4.0% of total sample, ASTM D 2939-92. Tensile at 77°F, minimum 45 psi, ASTM D 1292. Elongation at 77°F, minimum 200%, ASTM D 412-92. MVT 4 g/100 square inches/24 hours, ASTM E 398-83.

8.4.26.5 Apply white fire-retardant coating consisting of two coats at a rate of 1 gallon per 100 square feet per coat. Density at 77°F, 12.2 lbs./gallon, ASTM D 1475-90. Reflectance: Hunter at 90.0%, ASTM E 1347-90. Non-volatile content 67%, ASTM D 1644-88. VOC 155 q/l, ASTM D 3960-89.

8.4.26.6 On vertical surfaces, apply in two coats at the rate of 2 gallons per 100 square feet.

8.4.27 **Built-up roof, surface with aluminum coating or paint.**

8.4.27.1 If on work order, use primer.

8.4.27.2 Aluminum reflective coating. Asbestos content, none. Density at 77°F, 7.95 lbs./gallon, ASTM D 1475-90. Non-volatile matter, minimum 48%, ASTM D 1644-93. Metallic aluminum, minimum 11%, ASTM D 2824-85. VOC 478 q/l, ASTM 3460-93.

8.4.27.3 Prime roof with asphalt primer, if ordered.

8.4.27.4 Install aluminum reflective coating to roof surface at rate of 1 gallon per 150 square feet. Two coats required.

8.4.28 **Built-up roofing, surface with high solids white elastomeric coating.**

8.4.28.1 Water-based asphalt primer, if required on work order. All materials to be asbestos free. Mastic shall be minimum 80% solids, ASTM D 1475-85.

8.4.28.2 High performance, high solids, reflective, fire retardant coating.

8.4.28.3 Prime roof, if conditions require (see primer elsewhere).

8.4.28.4 Apply high solids elastomeric in one or two applications depending upon climatic conditions. Do not apply below 45°F. Apply in two applications of 2 gallon/100 s/f when temperature range is between 45°-70°F and one coat when temperature exceeds 70°F and relative humidity is below 70%. Density at 77°F, 6.8 lbs./gallon, ASTM D 147590. Non-volatile content, higher than 62%, ASTM D1644-88. Asbestos and VOC, none.

8.4.29 **Built-up roofing repairs; fibered asphalt mastic, brush grade, with fiberglass mesh.**

8.4.29.1 Asphalt mastic, reinforcement mesh, and primer. All materials shall be asbestos free. Non- volatile content 75%, ASTM D 4586-93. Density at 77°F, 10.1 lb./gallon, ASTM 147590. Adhesion to wet surface minimum 75%, ASTM D 3409-93.

8.4.29.2 Apply an 1/8" thick layer of mastic over repair area. Brush in reinforcement mesh removing all wrinkles. Apply second layer of mastic and install second layer of mesh extending 1" past last layer in all directions.

8.4.29.3 Always install same number of plies as removed (2 minimum).

8.4.29.4 Coat repair work as on work order.

8.4.30 **Built-up roofing repairs; pitch-based mastic, with fiberglass mesh.**

8.4.30.1 Pitch-based mastic and reinforcement mesh. All materials shall be asbestos free. Nonvolatile content 73%, ASTM D 4022-81. Density at 77°F, 9.1 lb./gallon, ASTM 1475-90. Adhesion to wet surface minimum 75%, ASTM D 3409-81. VOC 330 g/l, ASTM 3960-89.

8.4.30.2 Apply an 1/8" thick layer of mastic over repair area. Brush in reinforcement mesh removing all wrinkles. Apply second layer of mastic and install second layer of mesh extending 1" past last layer in all directions.

8.4.30.3 Always install same number of plies as removed (2 minimum).

8.4.30.4 Coat repair work as on work order.

8.4.31 **Built-up roofing repairs; elastomeric mastic, with fiberglass mesh.**

8.4.31.1 Elastomeric mastic and reinforcement mesh. All materials shall be asbestos free. Nonvolatile content of mastic, minimum 82%, ASTM D 4586-86. Density at 77°F, 8.1 lb./gallon, ASTM D 1475-85. Tensile at 77°F, 40 psi at 100% elongation, ASTM D 41287. Elongation at 77°F, 1,000%, at –30°F, 100%, ASTM D 412-87. MVTR 0.5-1.10 g/100 inches square/24 hours, ASTM E 398-83 (88). Flexibility at –40°F, no cracking TRC 737.

8.4.31.2 Apply an 1/8" thick layer of mastic over repair area. Brush in reinforcement mesh removing all wrinkles. Apply second layer of mastic and install second layer of mesh extending 1" past last layer in all directions.

8.4.31.3 Always install same number of plies as removed (2 minimum).

8.4.31.4 Coat repair work as on work order.

8.4.32 **Built-up roofing restoration, coal tar pitch roofs.**

8.4.32.1 Mastics, as needed.

8.4.32.2 Cold applied, penetrating tar base resaturant. All materials shall be asbestos free. Solids by weight, minimum 55%, ASTM D 2823-75 (81). Density at 77°F, 9.6 lb./gallon, ASTM D
1475-85. MVTR 0.03-0.3 g/100 inches squared/24 hours, ASTM E 398-83.

8.4.32.3 Size 6, 1/2" round river rock, ASTM D 1863-86.

8.4.32.4 Remove gravel and repair defects as outlined on work order.

8.4.32.5 Apply coal tar resaturant, 8 gallons per square, as specified by manufacturer.

8.4.32.6 Material is to be spray applied, unless manufacturer only specifies brushing. A mechanical pump with a minimum ratio of 11:1 is to be used for material delivery.

8.4.32.7 Warm material for ease of delivery, but must not exceed 110°F. The material will not be thinned in any manner.

8.4.32.8 Round river rock, 1/2", shall be spread evenly on the treated mat surface at the rate of 500 lbs./ square. The aggregate shall be clean and new. Crushed coral, slag or sandstone will not be acceptable.

8.4.32.9 If only a portion of roof mat is designed for restoration, then only the same size and type of aggregate will be replaced.

8.4.33 **Built-up roofing restoration, odorless, coal tar pitch or asphalt roofs.**

8.4.33.1 Mastics, as needed.

8.4.33.2 Cold applied, ecologically safe, odorless base resaturant. All materials shall be asbestos free. Resaturant water content 40%, ASTM D 3792-86. Density at 77°F 8.6 lb./gallon, ASTM D 1475-85. Low temperature flexibility at 45°F, no cracking or loss of adhesion TRC 715.

8.4.33.3 Size 6, 1/2" river rock, ASTM D 1863-86.

8.4.33.4 Remove gravel and repair defects as outlined on work order.

8.4.33.5 Apply resaturant, 8 gallons per square, as specified by manufacturer.

8.4.33.6 Material is to be spray applied, unless manufacturer specifies brushing only. A mechanical pump with a minimum ratio of 11:1 is to be used for material delivery.

8.4.33.7 Material should be warmed for ease of delivery, but must not exceed 110°F. The material will not be thinned in any manner.

8.4.33.8 Round river rock, 1/2", shall be spread evenly on the treated mat surface at the rate of 500 lbs./ square. The aggregate shall be clean and new. Crushed coral, slag or sandstone will not be acceptable.

8.4.33.9 If only a portion of roof mat is designed for resaturation, then only the same size and type of aggregate will be replaced.

8.4.34 **Single-ply roof, CSPE, 45 mils reinforced, asbestos free, mechanically fastened.**

8.4.34.1 CSPE membrane, 45 mil, reinforced with high strength polyester scrim (10 x 10).

8.4.34.2 Cleaning solvent, tri-chlorethelene.

8.4.34.3 Seam adhesive contact adhesive as supplied by membrane manufacturer.

8.4.34.4 Flash adhesive, one-part elastomer.

8.4.34.5 Seam sealer, one-part white silicone as supplied by membrane manufacturer.

8.4.34.6 Flashing sheet, CSPE, 45 mil, reinforced.

8.4.34.7 Mechanical fastener as specified by membrane manufacturer.

8.4.34.8 Starting at low edge of roof, lay roofing sheet parallel to edge of roof, being careful not to fall off. Outside edge to extend below outside edge of wood nailer a minimum of 1/2".

8.4.34.9 Install mechanical fasteners and plates at top edge of sheet, as per manufacturer's instructions.

8.4.34.10 Lay next run of roofing sheet shingle fashion onto roof surface.

8.4.34.11 Each sheet to have a 6" lap minimum. Lay all laps shingle fashion to permit drainage.

8.4.34.12 Clean all laps with approved solvent.

8.4.34.13 Adhere seams and end laps with contact adhesive, as specified by manufacturer.

8.4.34.14 Roll lap with 2" steel roller to ensure positive adhesion.
8.4.34.15 Install flashing sheet in flashing adhesive to substrate as specified.
8.4.34.16 Caulk at exposed edges of flashings and field seams with silicone sealant, as specified.
8.4.35 **Single-ply roof, CSPE, 60 mils reinforced, asbestos free, mechanically fastened.**
8.4.35.1 CSPE membrane, 60 mil, reinforced with high strength polyester scrim (10 x 10).
8.4.35.2 Cleaning solvent, tri-chlorethelene.
8.4.35.3 Seam adhesive; use adhesive supplied by membrane manufacturer.
8.4.35.4 Flash adhesive, one-part elastomer.
8.4.35.5 Seam sealer, one-part white silicone as supplied by membrane manufacturer.
8.4.35.6 Flashing sheet, CSPE, 60 mil, reinforced.
8.4.35.7 Mechanical fastener as specified by membrane manufacturer.
8.4.35.8 Starting at low edge of roof, lay roofing sheet parallel to edge of roof, being careful not to fall off. Outside edge to extend past outside edge of wood nailer 1/2".
8.4.35.9 Install mechanical fasteners and plates at top edge of sheet, as per manufacturer's instructions.
8.4.35.10 Lay next run of roofing sheet shingle fashion onto roof surface.
8.4.35.11 Each sheet to have a 6" lap minimum. Lay all laps shingle fashion to permit drainage.
8.4.35.12 Clean all laps with approved solvent.
8.4.35.13 Adhere seams and end laps with contact adhesive, as specified by manufacturer.
8.4.35.14 Roll lap with 2" steel roller to ensure positive adhesion.
8.4.35.15 Install flashing sheet in flashing adhesive to substrate as specified.
8.4.35.16 Caulk at exposed edges of flashings and field seams with silicone sealant, as specified.
8.4.36 **Single-ply roofing repairs (CSPE, PVC, and EPDM).**
8.4.36.1 Materials: single-ply membrane to match existing.
8.4.36.2 Adhesive and mastics to match existing.
8.4.36.3 Sealant to match existing.
8.4.36.4 Clean repair area.
8.4.36.5 Make repairs according to work order. All work must conform to existing systems manufacturer's specifications.
8.4.37 **Flashing membrane, 2 ply, Type IV or Type VI fiberglass.**
8.4.37.1 Type VI fiberglass felt, ASTM D 2178-86A, Class I.
8.4.37.2 Asphalt, Type IV steep (or appropriate type), ASTM D 312-84, UL labeled.
8.4.37.3 Install two plies of felts to flashing area in a continuous mopping of specified asphalt at a rate of 30 lbs. per square per ply.
8.4.37.4 Felts not to extend over 12" above roof mat and not less than 8". Ply must extend a minimum of 4" past toe of cant.
8.4.37.5 Nail 8" on center with simplex type fasteners or apply pressure bar.
8.4.38 **Flashing membrane, 1 ply polyester and 1 ply modified bitumen.**
8.4.38.1 Polyester heat stabilized roofing ply sheet that meets Federal Test Method 101C-2031, ASTM D 737-87, weight 3.1 lbs./100 square feet per ASTM D 3776-85.
8.4.38.2 Modified bitumen sheet, SBS elastomer with reinforcement. Thickness 0.150 ", ASTM D 751-89.
8.4.38.3 Asphalt, Type IV steep (or appropriate type), UL class A, ASTM D 312-84.
8.4.38.4 Install flashing ply as directed by manufacturer in continuous mopping of asphalt at 30 lbs. per square per ply. Not to exceed 12" height above roof, minimum height, 8" with 4" out from toe to cant.
8.4.38.5 Nail felts 8" on center with simplex type fasteners or apply pressure bar.
8.4.39 **Flashing membrane, 2 ply, polyester.**
8.4.39.1 Polyester heat stabilized roofing ply sheet that meets Federal Test Method 101C-2031, ASTM D 737-75.

8.4.39.2 Final surfacing listed elsewhere.

8.4.39.3 Install flashing ply as directed by manufacturer in continuous mopping of asphalt at 30 lbs. per square per ply. Not to exceed 12" height above roof, minimum height, 8" with 4" out from toe to cant. Nail 8" on center with simplex type fasteners or apply pressure bar.

9.4.40 **Flashing membrane, CSPE.**

9.4.40.1 Hypalon (CSPE) reinforced, 0.045 thick elastomer molded with high strength polyester scrim that meets the following ASTM standards: D 751-79, E96-80, D 471-79, D 120484, D 2136-84, and D 413-82.

9.4.40.2 Flashing adhesive, elastomeric adhesive, one part, to meet ASTM D 276-85, D 1475-85, and D 2196-81.

9.4.40.3 Heavy fibrated asphalt mastic with penetrating oils and plasticizing agents. UL approved, to meet ASTM D 276085.

9.4.40.4 Reinforced mesh (vinyl coated, woven glass scrim, weight 1.32 lb./100 square feet) per ASTM D 146-78a, tensile strength, 75 lbf.

9.4.40.5 Install elastomeric reinforced flashing membrane in a continuous application of adhesive at rate of 15 square feet per gallon.

9.4.40.6 Remove all air, wrinkles, and voids.

9.4.40.7 Flashings to extend 4" past toe of cant onto roof surface.

9.4.40.8 Strip inner roof edge of flashing sheet with reinforced mesh and asphalt mastic.

9.4.40.9 Attach top of flashing using pressure bar mechanically attached 8" on center.

9.4.41 **Flashing membrane, CSPE with aluminum coating.**

9.4.41.1 Hypalon (CSPE) reinforced, 0.045 thick elastomer molded with high strength polyester scrim that meets the following ASTM standards: D 751-79, E 96-80, D 471-79, D 120484, D 2136-84 and D 413-82.

9.4.41.2 Flashing adhesive, elastomeric adhesive, one part, to meet ASTM D 276-85, D 1475-85 and D 2196-81.

9.4.41.3 Heavy fibrated asphalt mastic with penetrating oils and plasticizing agents, UL approved to meet ASTM D 2760-85.

9.4.41.4 Reinforced mesh (vinyl coated, woven glass scrim, weight 1.32 lb./100 square feet) per ASTM D 146-78a, tensile strength, 75 lbf.

9.4.41.5 Install elastomeric reinforced flashing membrane in a continuous application of adhesive at rate of 15 square feet per gallon.

9.4.41.6 Remove all air, wrinkles, and voids.

9.4.41.7 Flashings will extend 4" past toe of cant onto roof surface.

9.4.41.8 Strip inner roof edge of flashing sheet with reinforced mesh and asphalt mastic.

9.4.41.9 Attach top of flashing using pressure bar mechanically attached 8" on center.

9.4.41.10 Use primer, if requested, or per manufacturer's instructions.

9.4.41.11 Install aluminum reflective coating to roof flashings at rate of 1 gallon per 130 square feet. Two coats required.

9.4.42 **Polyurethane foam roofing.**

9.4.42.1 Material is two component but may not use CFC's as blowing agent. Must have rating on Spray Polyurethane Foam (SPF) from UL, Class A.

9.4.42.2 Minimum density, 2.75 pcf; minimum compression strength, 40 psi; minimum allowable slope, 1/4" to 12"; minimum thickness of foam, 1" for new, 1.5" for recover; minimum coating thickness (See .12 and .13 below). Coating shall be asbestos free. Non-volatile contents 62% by weight, 70% by volume, ASTM D 1644-88 and 5201-91. Density at 77°F 6.8 lb./gallon, ASTM D 1475-90. (Must meet manufacturer's UL rated assemblies.)

9.4.42.3 Roof prepared as on work order.

9.4.42.4 Installation shall be smooth, free from ponding in excess of 1 square foot per 100 square feet, 24 hours after secession of moisture.

9.4.42.5 Without exception, surfacing shall be installed the same day as the foam. Any foam left exposed overnight shall be ripped off and reinstalled without any additional cost.

9.4.42.6 Foam will be installed according to the most rigid industry standards. (Indicate the standards you will use.)

9.4.42.7 Random sampling: if one sample per each 10,000 square feet over the entire project (minimum three samples) show an average deficiency of coating in excess of 5%, the entire area shall be recoated with an additional 15 mils, DFT (dry film thickness), at no additional cost. Should the foam itself be deficient in depth or weight in excess of 5%, it shall be removed and replaced at no additional cost.

9.4.42.8 Polyurethane Foam shall be installed over primed concrete decks and existing built-up roofs, according to the Uniform Building Code.

9.4.42.9 To recover gravel roof systems, first remove all loose rock, dirt, dead birds and other debris. Prime the roof.

9.4.42.10 No existing roof system may contain moisture or wet insulation prior to recover.

9.4.42.11 Infrared analysis is required of all insulated recover applications prior to spraying the foam.

9.4.42.12 Minimum Dry Film Thickness: Acrylic, 40 mils, minimum fire rating, UL 790, Class A. (Must meet manufacturer's UL rated assemblies.)

9.4.42.13 Minimum Dry Film Thickness: Silicone, 22 mils, minimum fire rating, UL 790, Class A. (Must meet manufacturer's UL rated assemblies.)

9.4.42.14 No teachers, administrators, or students will be permitted inside any building during or within two hours after the application of any spray polyurethane foam chemicals, unless state laws so require.

9.4.43 **Additional Polyurethane foam coating.**

9.4.43.1 Acrylic/elastomeric, UL listed, Class A, 40 DFT (must have listing with foam used).

9.4.43.2 Apply, per manufacturer's instructions (see above).

9.4.43.3 No teachers, administrators, or students will be permitted inside any building during or within two hours after the application of any foam roofing materials, even if no state law so states.

9.4.44 **Single-ply roof, EDPM, 45 mils reinforced, mechanically fastened.**

9.4.44.1 45 mil, EDPM membrane 10" wide maximum.

9.4.44.2 Lap cleaner, as specified by membrane manufacturer.

9.4.44.3 Lap adhesive; contact adhesive by manufacturer, or tape.

9.4.44.4 Flashing sheet and mechanical fasteners.

9.4.44.5 Hypalon coating and sand, to meet all Class A ratings.

9.4.44.6 Lap primer as specified by manufacturer.

9.4.44.7 Install roofing sheet parallel to roof edge and over nailer 1/2" minimum.

9.4.44.8 Install mechanical fasteners to top edge of sheet using a pressure bar attached 8" on center.

9.4.44.9 Laps to be 6" wide minimum.

9.4.44.10 Run all sheets parallel to roof edge to ensure good drainage.

9.4.44.11 Clean all laps with lap cleaner.

9.4.44.12 Adhere laps with adhesive and let dry.

9.4.44.13 Roll in seam using firm pressure; roll adhered seam with 2" steel roller.

9.4.44.14 Install flashing sheets to substrate using flashing adhesive.

9.4.44.15 Caulk all laps with lap sealer at the rate of 22 linear feet per gallon and tool neatly.

9.4.44.16 Terminate top flashings with pressure bar attached 8" on center.

9.4.44.17 Assembly must be UL 790, Class A rated.

9.4.45 **Single-ply roof, EDPM, 60 mils fully adhered.**

9.4.45.1 60 mil, EDPM membrane.

9.4.45.2 Lap cleaner, as specified by membrane manufacturer.
9.4.45.3 Lap adhesive contact adhesive by manufacturer.
9.4.45.4 Flashing sheet and mechanical fasteners.
9.4.45.5 Lap primer as specified by manufacturer.
9.4.45.6 Install roofing sheet parallel to roof edge and over nailer 1/2" minimum.
9.4.45.7 Install mechanical fasteners to top edge of sheet.
9.4.45.8 Laps to be 6" wide minimum.
9.4.45.9 Run all sheets parallel to roof edge to ensure good drainage.
9.4.45.10 Clean all laps with lap cleaner.
9.4.45.11 Adhere laps with adhesive and let dry.
9.4.45.12 Roll in seam using firm pressure; roll adhered seam with 2" steel roller.
9.4.45.13 Install flashing sheets to substrate using flashing adhesive.
9.4.45.14 Caulk all laps with lap sealer at the rate of 22 linear feet per gallon and tool neatly.
9.4.45.15 Terminate top flashings with pressure bar attached 8" on center.
9.4.45.16 Assembly must be UL 790, Class A rated.

9.4.46 **Built-up roof, base sheet with 3 plies trilaminate ply, cold process adhesive (25-year roof).**

9.4.46.1 Fiberglass base ply, 33 lb., polyester/glass/polyester trilaminate reinforcement exceeding the requirements of ASTM D 4601-91, Type II.
9.4.46.2 Cold asphalt adhesive, UL approved, applied at 2.5 gallons per 100 square feet, inner ply. Must meet SCAQMD VOC limits and contain no asbestos as per ASTM D 276-87.
9.4.46.3 Top surfacing as specified elsewhere.
9.4.46.4 Install base and three plies with cold asphalt adhesive at the rate of 2.5 gallons per square per ply.
9.4.46.5 Plies to extend to top of cants and nail 8" o.c.
9.4.46.6 Wood nailers to provide membrane termination. Nail per manufacturer recommendation.
9.4.46.7 Manufacturer must approve final system.

9.4.47 **Built-up roof, surface with premium asphalt, and gravel.**

9.4.47.1 Premium III asphalt, ASTM D 312-89 high quality steep asphalt, process from highly monitored asphalt flux.
9.4.47.2 Apply Premium III asphalt where specified by work order at minimum rate of 25 lbs. per square foot.
9.4.47.3 Roof gravel, size 6, ASTM D 1863-86.
9.4.47.4 If on work order, prime roof surface with asphalt primer.
9.4.47.5 Broadcast roof gravel at a rate of 500 lbs. per square.
9.4.47.6 Rake gravel smooth.

9.4.48 **Built-up roof, surface with Fire Retardent Aluminum coating or paint, single coat.**

9.4.48.1 Fire rated, asphalt based, fibrated aluminum roof coating formulated with a blend of rust inhibiting oils. Is asbestos free and meets VOC requirements established by the US EPA for metallic pigmented Architectural Coatings. Exceeds the requirements of ASTM D 2824, Type III.
9.4.48.2 Smooth asphalt built-up roof surfaces and modified bitumen surfaces: Apply 2-1/2 to 3 gallons per SQ (1.0 to 1.2 L/m2) maximum.
9.4.48.3 Metal surfaces: 2 gallons per SQ (.08 L/m2). Coverage will vary based on texture and porosity of surface.

9.4.49 **Modified bitumen roof, base sheet, cap sheet, cold Modified Bitumen Adhesive.**

9.4.49.1 Fiberglass base ply, 33 lb., Type G-2, to meet ASTM D 4601-86, high performance weight, 33 lb. per 100 s/f, break strength 90 lbf/in. in MD and 70 lbf/in in XM, approved by manufacturer.

9.4.49.2 Cold process asphalt adhesive 2 gals/SQ (.8 L/m2) per ply.

9.4.49.3 Modified bitumen sheet, SBS elastomers with reinforcement. Thickness: 0.160', ASTM D 751- 89. Tensile strength, 148 MD and 122 CD lbf/in., ASTM D 2523-84 at 0°F. Puncture meets
FTMS 101C 2031 (modified).

9.4.49.4 Install modified bitumen sheet in a uniform and continuous application of adhesive. Side laps 4" (100mm) minimum; end laps 6" (150mm) minimum. To assure complete and uniform adhesion, adhesive should exude past lap edges. Install flashings as specified.

9.4.50 **Built-up roof, 3 plies fiberglass felts, Type IV Asphalt.**

9.4.50.1 Ply sheet, G-1, Type VI; asphalt Type IV steep (or appropriate Type), UL, Class A, ASTM D-312-84.

9.4.50.2 Prepare substrate as required by prime contractor.

9.4.50.3 Continuously mop plies. Felts are to be installed in shingle fashion.

9.4.50.4 Plies are to be adhered with approved asphalt at the rate of 25 lbs. per square per ply.

9.4.50.5 All felts are to be broomed when applied.

9.4.50.6 Fishmouths, voids, wrinkles and other ugliness will not be accepted.

9.4.50.7 Extend all plies 1"-2" above cant and seal.

9.4.50.8 If required, install glaze coat of asphalt at the rate of 15 lbs. per square.

9.4.50.9 Prime contractor must approve final roofing system, and then surface is topped. Top surfacing as specified elsewhere.

9.4.51 **Single-ply roof, 45 mils fully adhered with bonding adhesive.**

9.4.51.1 45 mil white thermoplastic single ply comprised of an elastomeric tri-polymer alloy based on Elvaloy and blended with CPE and PVC. Membrane is asbestos free and exceeds the performance requirements of ASTM D 6754-02.

9.4.51.2 Apply bonding adhesive in a uniform continuous application onto approved substrate 80 to 100 sq. ft./gal (2.0 – 2.5 m2/L).

9.4.51.3 Allow adhesive to become tacky prior to placing membrane into the adhesive. Do not allow adhesive to fully dry prior to placing membrane.

9.4.51.4 Place membrane into adhesive and broom immediately. Overlap at side laps.

9.4.51.5 3" (76mm) minimum. Overlap at end lap 2" (51mm) minimum.

9.4.51.6 Do not apply adhesive over membrane in end lap area. Seal end lap using 45 mil roof membrane (without fleece). Heat weld membrane strip over end lap. Stagger all end laps.

9.4.51.7 Heat weld seams according to manufacturer's specifications.

9.4.51.8 Provide mechanical attachment of roof membrane at roof perimeter, walls, expansion joints, and all other projections. Follow recommendations of Factory Mutual Loss Prevention Data Sheets 1-28, 1-29, and 1-49.

9.4.52 **Single-ply roof, TPA Fleece Back, 45 mils fully adhered with hot asphalt.**

9.4.52.1 45 mil white thermoplastic single ply comprised of an elastomeric tri-polymer alloy based on Elvaloy and blended with CPE and PVC. Membrane is asbestos free and exceeds the performance requirements of ASTM D 6754-02.

9.4.52.2 Apply asphalt Type IV steep (or appropriate Type) ASTM D-312-84 in a uniform continuous application onto approved substrate 25 lbs/SQ (1.25 kg/m2).

9.4.52.3 Place membrane into adhesive and broom immediately. Overlap at side laps.

9.4.52.4 3" (76mm) minimum. Overlap at end lap 2" (51mm) minimum.

9.4.52.5 Do not apply adhesive over membrane in end lap area. Seal end lap using 45 mil roof membrane (without fleece). Heat weld membrane strip over end lap. Stagger all end laps.

9.4.52.6 Heat weld seams according to manufacturer's specifications.

9.4.52.7 Provide mechanical attachment of roof membrane at roof perimeter, walls, expansion joints, and all other projections. Follow recommendations of Factory Mutual Loss Prevention Data Sheets 1-28, 1-29, and 1-49.

9.4.53 **Single-ply roof, 45 mils mechanically attached.**

9.4.53.1 45 mil white thermoplastic single ply comprised of an elastomeric tri-polymer alloy based on Elvaloy and blended with CPE and PVC. Membrane is asbestos free and exceeds the performance requirements of ASTM D 6754-02.

9.4.53.2 Start at the low point of the roof and position a half-width (39" or 991mm)

9.4.53.3 Roll roof membrane square with the roof edge. Avoid wrinkles.

9.4.53.4 Reposition when necessary.

9.4.53.5 Mechanically attach underlying sheet at the lap to the structural deck with fasteners and 2 3/8" (60mm) diameter barbed membrane plates spaced at 6" (153mm) on center (or as specified) down the entire lap with the disc centered 1 1/8" (29mm) from the sheet edge.

9.4.53.6 Overlap at side lap: 4.5" (114mm) minimum. Overlap at end lap 3" (76mm) minimum.

9.4.53.7 The minimum number of half-width rolls requires at the perimeter is 2. Determine the perimeter width as described in Section 2.2 of Factory Mutual Loss Prevention Data Sheet 1- 28.

9.4.53.8 Install the required number of half-width perimeter rolls along the roof edges both parallel and perpendicular to the roll direction in the field of the roof. Overlap perimeter sheets in the corner areas with perimeter fasteners rows installed through both membranes in both directions. Install a minimum 6-inch (150mm) wide cover strip centered over the fastener rows.

9.4.54 **Base sheet mechanically attached with 3 plies fiberglass felts, Type 1 - Coal Tar Pitch.**

9.4.54.1 Fiberglass base ply, 33 lb., Type G-2, ASTM D 4601-86 average tensile, 80 psi, approved by manufacturer.

9.4.54.2 Nail base sheet per manufacturer's instruction.

9.4.54.3 Type I low slope coal tar pitch, ASTM D 450-96.

9.4.54.4 Type VI fiberglass felt, ASTM D 2178-86A, Class I.

9.4.54.5 Apply the specified roofing plies at an interply coverage rate of 25 lb/100 ft2 (1.2 kg/m2).

9.4.54.6 Surfacing Options: Apply tar over roof surface at 70 lb/100 ft2 (3.4 kg/m2) +/- 20%. Immediately broadcast 440 lb/100 ft2 (19.5 kg/m2) of new, clean gravel or 300 lb/100 ft2 (14.6 kg/m2) of slag into adhesive. Aggregate shall conform to ASTM D 186393, size 6 or 67. A light colored aggregate must be used.

9.4.55 **Base sheet mechanically attached with 3 plies Organic felts, Type 1 - Coal Tar Pitch.**

9.4.55.1 Nail base sheet per manufacturer's instructions.

9.4.55.2 Type I low slope coal tar pitch, ASTM D 450-96.

9.4.55.3 #30 Organic felts, ASTM D226-89.

9.4.55.4 Apply the specified roofing plies at an interply coverage rate of 25 lb/100 ft2 (1.2 kg/m2).

9.4.55.5 Surfacing Options: Apply tar over roof surface at 70 lb/100 ft2 (3.4 kg/m2) +/- 20%. Immediately broadcast 440 lb/100 ft2 (19.5 kg/m2) of new, clean gravel or 300 lb/100 ft2 (14.6 kg/m2) of slag into adhesive. Aggregate shall conform to ASTM D 186393, size 6 or 67. A light colored aggregate must be used.

9.4.56 **Built-up roof, 4 plies Fiberglass felts, Type 1 Coal Tar Pitch.**

9.4.56.1 Type I low slope coal tar pitch, ASTM D 450-96.

9.4.56.2 Type VI fiberglass felt, ASTM D 2178-86A, Class I.

9.4.56.3 Apply the specified roofing plies at an interply coverage rate of 25 lb/100 ft2 (1.2 kg/m2).

9.4.56.4 Surfacing Options: Apply tar over roof surface at 70 lb/100 ft2 (3.4 kg/m2) +/- 20%. Immediately broadcast 440 lb/100 ft2 (19.5 kg/m2) of new, clean gravel or 300 lb/100

ft2 (14.6 kg/m2) of slag into adhesive. Aggregate shall conform to ASTM D 186393, size 6 or 67. A light colored aggregate must be used.

9.4.57 **Built-up roof, 4 plies Organic felts, Type 1 Coal Tar Pitch.**

9.4.57.1 Type I low slope coal tar pitch, ASTM D 450-96.

9.4.57.2 #30 Organic felts, ASTM D226-89.

9.4.57.3 Apply the specified roofing plies at an interply coverage rate of 25 lb/100 ft2 (1.2 kg/m2).

9.4.57.4 Surfacing Options: Apply tar over roof surface at 70 lb/100 ft2 (3.4 kg/m2) +/- 20%. Immediately broadcast 440 lb/100 ft2 (19.5 kg/m2) of new, clean gravel or 300 lb/100 ft2 (14.6kg/m2) of slag into adhesive. Aggregate shall conform to ASTM D 186393, size 6 or 67. A light colored aggregate must be used.

9.4.58 **Built-up roof, surface with hot Coal Tar Pitch and Gravel.**

9.4.58.1 Type I low slope coal tar pitch, ASTM D 450-96.

9.4.58.2 Surfacing Options: Apply tar over roof surface at 70 lb/100 ft2 (3.4 kg/m2) +/- 20%. Immediately broadcast 440 lb/100 ft2 (19.5 kg/m2) of new, clean gravel or 300 lb/100 ft2 (14.6 kg/m2) of slag into adhesive. Aggregate shall conform to ASTM D 186393, size 6 or 67. A light colored aggregate must be used.

9.4.59 **Single-ply repairs using 2 coat polyurethane, elastomeric coating system.**

9.4.59.1 Fire resistant two coat, polyurethane, elastomeric coating system.

9.4.59.2 The system consists of a single component, moisture cure, high performance, aliphatic urethane finish coat.

9.4.59.3 Base coat coverage: 1 ½ gal/SQ (0.6 l/m2) minimum.

9.4.59.4 Finish coat coverage: 1 gal/SQ (0.4 l/m2) minimum.

9.4.60 **Single-ply repairs at laps or defects using 2 coats elastomeric coating system with reinforcement.**

9.4.60.1 Fire resistant two coat, polyurethane, elastomeric coating system.

9.4.60.2 The system consists of a single component, moisture cure, high performance, aliphatic urethane finish coat.

9.4.60.3 Seam repair: 3.0 gal/SQ (1.2 l/m2) minimum.

9.4.60.4 150 lf/gal (12 linear meters/l).

9.4.61 **Single ply roof, TPA fleece back, 60 mils fully adhered with hot asphalt.**

9.4.61.1 60 mil white thermoplastic single ply comprised of an elastomeric tri-polymer alloy based on Elvaloy and blended with CPE and PVC. Membrane is asbestos free and exceeds the performance requirements of ASTM D 6754-02.

9.4.61.2 Apply asphalt Type IV steep (or appropriate Type) ASTM D-312-84 in a uniform continuous application onto approved substrate 25 lbs/SQ (1.25 kg/m2).

9.4.61.3 Place membrane into adhesive and broom immediately. Overlap at side laps.

9.4.61.4 3" (76mm) minimum. Overlap at end lap 2" (51mm) minimum.

9.4.61.5 Do not apply adhesive over membrane in end lap area. Seal end lap using 45 mil roof membrane (without fleece). Heat weld membrane strip over end lap. Stagger all end laps.

9.4.61.6 Heat weld seams according to manufacturer's specifications.

9.4.61.7 Provide mechanical attachment of roof membrane at roof perimeter, walls, expansion joints, and all other projections. Follow recommendations of Factory Mutual Loss Prevention Data Sheets 1-28, 1-29, and 1-49.

9.4.62 **Single-ply roof 60 mils fully adhered with bonding adhesive.**

9.4.62.1 60 mil white thermoplastic single ply comprised of an elastomeric tri-polymer alloy based on Elvaloy and blended with CPE and PVC. Membrane is asbestos free and exceeds the performance requirements of ASTM D 6754-02.

9.4.62.2 Apply bonding adhesive in a uniform continuous application onto approved substrate 80 to 100 sq. ft./gal (2.0 – 2.5 m2/L).

9.4.62.3 Allow adhesive to become tacky prior to placing membrane into the adhesive. Do not allow adhesive to fully dry prior to placing membrane.

9.4.62.4 Place membrane into adhesive and broom immediately. Overlap at side laps.

9.4.62.5 3" (76mm) minimum. Overlap at end lap 2" (51mm) minimum.

9.4.62.6 Do not apply adhesive over membrane in end lap area. Seal end lap using 45 mil roof membrane (without fleece). Heat weld membrane strip over end lap. Stagger all end laps.

9.4.62.7 Heat weld seams according to manufacturer's specifications.

9.4.62.8 Provide mechanical attachment of roof membrane at roof perimeter, walls, expansion joints, and all other projections. Follow recommendations of Factory Mutual Loss Prevention Data Sheets 1-28, 1-29, and 1-49.

9.4.63 **Built-up roof, 1 ply Trilaminate, 1 ply Modified Bitumen Sheet, fire rated.**

9.4.63.1 Polyester/glass/polyester trilaminate reinforcement coated with waterproofing asphalt which exceeds the requirements of ASTM D 4601-98, Type II.

9.4.63.2 Modified bitumen sheet, SBS elastomers with reinforcement. Thickness: 0.160', ASTM D 751-89; Tensile strength, 148 MD and 122 CD lbf/in., ASTM D 2523-84 at 0°F. Puncture meets FTMS 101C 2031 (modified).

8.5 **Masonry**

8.5.1 **Brick, remove and reset, 1 to 50 square feet.**

8.5.1.1 Brick must match existing in color and size. Must conform to ASTM C 216, grade MW, Type FBX. Common brick should meet ASTM C 62-75A-SW.

8.5.1.2 Type I Portland cement, ASTM C 150 or Type IA, ASTM C 150.

8.5.1.3 Masonry cement, ASTM C 91.

8.5.1.4 Hydrated lime, Type S, ASTM C 207.

8.5.1.5 Water must be clean, potable and wet.

8.5.1.6 Admixture shall be integral treatment to reduce water content and shrinkage.

8.5.1.7 Fine aggregate, clean natural sand conforming to ASTM C 144.

8.5.1.8 Mortar mix shall be 1/2/8 mix made from specified materials.

8.5.1.9 Prime contractor provides material, labor and equipment to perform work.

8.5.1.10 Using chisels, grinders, and hand tools, remove brick and/or joint.

8.5.1.11 Clean all mortar from repair area.

8.5.1.12 Mortar mix shall be 1/2/8 made from above materials using a minimum amount of water to make a workable mix.

8.5.1.13 All units shall be laid with properly mortared vertical and horizontal joints. Units will not be moved or shifted once put in place. All joints to be worked full of mortar.

8.5.1.14 Joints to match existing, approximately 3/8", neatly concave and tooled.

8.5.1.15 Work shall be cleaned free of loose mortar.

8.5.1.16 Masonry work shall be laid up in a running bond with reinforcement every 16" vertical or as specified on approved work order.

8.5.2 **Brick, remove and reset, over 50 square feet.**

8.5.2.1 Brick must match existing in color and size. Must conform to ASTM C 216, grade MW, Type FBX. Common brick should meet ASTM C 62-75A-SW.

8.5.2.2 Type I Portland cement, ASTM C 150 or Type IA, ASTM C 150.

8.5.2.3 Masonry cement, ASTM C 91.

8.5.2.4 Hydrated lime, Type S, ASTM C 207.

8.5.2.5 Water should be clean, potable and mountain fresh.

8.5.2.6 Admixture shall be integral treatment to reduce water content and shrinkage.

8.5.2.7 Fine aggregate, clean natural sand conforming to ASTM C 144.

8.5.2.8 Mortar mix shall be 1/2/8 mix made from specified materials.
8.5.2.9 Prime contractor provides material, labor and equipment to perform work.
8.5.2.10 Using chisels, grinders, and hand tools, remove brick and/or joint.
8.5.2.11 Clean all mortar from repair area.
8.5.2.12 Mortar mix shall be 1/2/8 made from above materials using a minimum amount of water to make a workable mix.
8.5.2.13 All units shall be laid with properly mortared vertical and horizontal joints. Units will not be moved or shifted once put in place. All joints to be worked full with mortar.
8.5.2.14 Joints to match existing, approximately 3/8", neatly concave and tooled.
8.5.2.15 Work shall be cleaned free of loose mortar.
8.5.2.16 Masonry work shall be laid up in a running bond with reinforcement every 16" vertical or as specified on approved work order.
8.5.3 **Block, remove and reset.**
8.5.3.1 Block must match existing in color and size. Must conform to ASTM C 216, grade MW, Type FBX. Block should meet ASTM C 62-75A-SW.
8.5.3.2 Type I Portland cement, ASTM C 150 or Type IA, ASTM C 150.
8.5.3.3 Masonry cement, ASTM C 91.
8.5.3.4 Hydrated lime, Type S, ASTM C 207.
8.5.3.5 Water, clean, potable. Bottled water may be used.
8.5.3.6 Admixture shall be integral treatment to reduce water content and shrinkage.
8.5.3.7 Fine aggregate, clean natural sand conforming to ASTM C 144.
8.5.3.8 Mortar mix shall be 1/2/8 mix made from specified materials.
8.5.3.9 Prime contractor provides material, labor and equipment to perform work.
8.5.3.10 Using chisels, grinders, and hand tools, remove brick and/or joint.
8.5.3.11 Clean all mortar from repair area.
8.5.3.12 All units shall be laid with properly mortared vertical and horizontal joints. Units will not be moved or shifted once put in place. All joints to be worked full with mortar.
8.5.3.13 Joints to match existing, approximately 3/8", neatly concave and tooled.
8.5.3.14 Work shall be cleaned free of loose mortar.
8.5.3.15 Masonry work shall be laid up in a running bond with reinforcement every 16" vertical or as specified on approved work order.
8.5.3.16 All must comply with OSHA, NCRA, EPA, and local building codes and regulations; fall protection as required.
8.5.4 **Coping stones, remove and reset.**
8.5.4.1 Coping stones must match existing in color and size.
8.5.4.2 Type I Portland cement, ASTM C 150.
8.5.4.3 Masonry cement, ASTM C 91.
8.5.4.4 Hydrated lime, Type S, ASTM C 207.
8.5.4.5 Water, clean, potable and wet.
8.5.4.6 Admixture shall be integral treatment to reduce water content and shrinkage.
8.5.4.7 Fine aggregate, clean natural sand conforming to ASTM C 144.
8.5.4.8 Mortar mix shall be 1/2/8 mix made from specified materials.
8.5.4.9 Prime contractor provides material, labor and equipment to perform work.
8.5.4.10 Carefully remove coping stones. Remove all mortar and residue from parapet wall.
8.5.4.11 Mortar mix shall be 1/2/8 made from above materials using a minimum amount of water to make a workable mix.
8.5.4.12 Apply mortar mix to top of parapet and do not contaminate face of the building.
8.5.4.13 Set cleaned coping stones in place leaving 3/8" joint between stones.
8.5.4.14 Waterproof joints and stones as specified on approved work order.

8.5.4.15 All work must comply with OSHA, NCRA, EPA, and local building codes and regulations; fall protection as required.

8.5.5 **Brick, block or coping removal.**

8.5.5.1 Remove brick, block or coping.

8.5.5.2 Use power or hand tools to remove units as required without damage to remaining masonry units.

8.5.5.3 Finish any remaining mortar and masonry units to match remaining and ensure watertight integrity of surrounding work area.

8.5.5.4 Use appropriate trades as local law requires.

8.5.5.5 New work shall be completed in neat and professional manner. Joints shall match surrounding shapes and styles.

8.5.5.6 Waterproof as specified elsewhere, as required.

8.5.5.7 All work must comply with OSHA, NCRA, EPA, and local building codes and regulations; fall protection as required.

8.5.6 **Brick, block and brick exterior wall maintenance, repair and application of protective coatings.**

8.5.6.1 Classification of building heights.

8.5.6.1.1 High rise is defined as a building with six or more floors.

8.5.6.1.2 Low rise is defined as a building with five or less floors.

8.5.6.2 Selective Demolition of Concrete Block Masonry Units (CMU) with perimeter saw cutting- swingstage 4", 6" and 8" block (high-rise).

8.5.6.2.1 Provide sidewalk protection below as required by local jurisdiction.

8.5.6.2.2 Swingstage set up and safety requirements as per local jurisdiction and OSHA requirements.

8.5.6.2.3 Rake out loose mortar around masonry unit to be removed.

8.5.6.2.4 Saw cut mortar joint around masonry unit a minimum of 1" deep using handheld saws with a dust suction attachment.

8.5.6.2.5 Cut out full units from joint to joint and in a manner to permit replacement with full size units without damaging surrounding masonry.

8.5.6.2.6 Support and protect remaining masonry that surrounds removal area.

8.5.6.2.7 Maintain flashing, reinforcement, lintels and adjoining construction in an undamaged condition.

8.5.6.2.8 Dispose of demolished material in a legal manner.

8.5.6.3 Selective Demolition of Brick Masonry Units with perimeter saw cutting - swingstage one, two, and three wythe (high-rise).

8.5.6.3.1 Provide Sidewalk protection below as required by local jurisdiction.

8.5.6.3.2 Swingstage set up and safety requirements as per local jurisdiction and OSHA requirements.

8.5.6.3.3 Rake out loose mortar around brick masonry unit to be removed.

8.5.6.3.4 Sawcut mortar joint around brick masonry unit a minimum of 1" deep using handheld saws with a dust suction attachment.

8.5.6.3.5 C u t out full units from joint to joint and in a manner to permit replacement with full size units without damaging surrounding masonry.

8.5.6.3.6 Support and protect remaining brick masonry that surrounds removal area.

8.5.6.3.7 Maintain flashing, reinforcement, lintels and adjoining construction in an undamaged condition.

8.5.6.3.8 Dispose of demolished material in a legal manner.

9.5.4. Selective Demolition of Brick Masonry Units with perimeter saw cutting - scaffolding one, two and three wythe (low-rise).

9.5.6.4.1 Provide sidewalk protection below as required by local jurisdiction.

9.5.6.4.2 Scaffolding set up and safety requirements as per local jurisdiction and OSHA requirements.

9.5.6.4.3 Rake out loose mortar around brick masonry unit to be removed.

9.5.6.4.4 Sawcut mortar joint around brick masonry unit a minimum of 1" deep using handheld saws with a dust suction attachment.

9.5.6.4.5 Cut out full units from joint to joint and in a manner to permit replacement with full size units without damaging surrounding masonry.

9.5.6.4.6 Support and protect remaining brick masonry that surrounds removal area.

9.5.6.4.7 Maintain flashing, reinforcement, lintels and adjoining construction in an undamaged condition.

9.5.6.4.8 Dispose of demolished material in a legal manner.

9.5.6.5 Selective Demolition of Mortar Joint with Perimeter Sawcutting – Swingstage (high-rise) a) Removal of existing mortar (½" wide by ¾" depth) b) Removal of existing mortar (¾" wide by ¾" depth) c) Removal of existing mortar (½" wide by 1½" depth) d) Removal of existing mortar (¾" wide by 1½" depth)

9.5.6.5.1 Set up swingstage as per local jurisdiction and OSHA requirements.

9.5.6.5.2 Set up sidewalk protection below as per local jurisdiction and OSHA requirements.

9.5.6.5.3 Provide all labor, tools and equipment required for removal of mortar.

9.5.6.5.4 Rake out, cut out old mortar with a chisel and mallet from joints to the required depth.

9.5.6.5.5 Remove mortar to the required depth and width using power grinders, but not less than that required to expose sound, un-weathered mortar.

9.5.6.5.6 Remove mortar from masonry surface within raked out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar.

9.5.6.5.7 Brush, vacuum or flush joints to remove dirt and loose debris.

9.5.6.8.8 Do not spall edges of masonry units or widen joints. Replace damaged masonry units.

9.5.6.6 Selective Demolition of Mortar Joint with Perimeter Sawcutting – Scaffolding (low-rise) a) Removal of existing mortar (½" wide by ¾" depth) b) Removal of existing mortar (¾" wide by ¾" depth) c) Removal of existing mortar (½" wide by 1½" depth) d) Removal of existing mortar (¾" wide by 1½" depth)

9.5.6.6.1 Set up scaffolding as per local jurisdiction and OSHA requirements.

9.5.6.6.2 Set up sidewalk protection below as per local jurisdiction and OSHA requirements.

9.5.6.6.3 Provide all labor, tools and equipment required for removal of mortar.

9.5.6.6.4 Rake out, cut out old mortar with a chisel and mallet from joints to the required depth.

9.5.6.6.5 Remove mortar to the required depth and width using power grinders, but not less than that required to expose sound, un-weathered mortar.

9.5.6.6.6 Remove mortar from masonry surface within raked out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar.

9.5.6.6.7 Brush, vacuum or flush joints to remove dirt and loose debris.

9.5.6.6.8 Do not spall edges of masonry units or widen joints. Replace damaged masonry units.

9.5.6.7 New Pointing Work – Swingstage (high-rise)

a) Furnish and install new mortar (½" wide by ¾" depth)
b) Furnish and install new mortar (¾" wide by ¾" depth)
c) Furnish and install new mortar (½" wide by 1 ½" depth)
d) Furnish and install new mortar (¾" wide by 1 ½" depth)

9.5.6.7.1 Set up swingstage as per local jurisdiction and OSHA requirements.

9.5.6.7.2 Set up sidewalk protection below as per local jurisdiction and OSHA requirements.

9.5.6.7.3 Rinse masonry-joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at the time of pointing, excess water has evaporated or run off and joint surfaces are damp but free of standing water.

9.5.6.7.4 Apply the first layer of pointing mortar to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8" until a uniform depth is formed. Compact each layer thoroughly and allow it to become thumbprint hard before applying the next layer.

9.5.6.7.5 After joints have been filled to a uniform depth, place remaining pointing mortar in 3 layers, with first and second layers each filling about two-fifths of joint depth; third layer, the remaining one-fifth. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing bricks have rounded edges, slightly recess final layer from face. Take care not to spread mortar over edges onto exposed masonry surfaces or to featheredge mortar.

9.5.6.7.6 When mortar is thumbprint hard, tool joints to match original appearance of joints, unless otherwise indicated. Remove excess mortar from edge of joint by brushing.

9.5.6.7.7 Cure mortar by maintaining in a damp condition for at least 72 hours.

9.5.6.7.8 Where repointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.

9.5.6.7.9 After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use stiff nylon or fiber brushes and clean water, spray applied at a low pressure.

9.5.6.7.10 Do not use metal scrapers or brushes.

9.5.6.7.11 Do not use acidic or alkaline cleaners.

9.5.6.8 New Pointing Work – Scaffolding (low-rise)

a) Furnish and install new mortar (½" wide by ¾" depth)
b) Furnish and install new mortar (¾" wide by ¾" depth)
c) Furnish and install new mortar (½" wide by 1 ½" depth)
d) Furnish and install new mortar (¾" wide by 1 ½" depth)

9.5.6.8.1 Set up scaffolding as per local jurisdiction and OSHA requirements.

9.5.6.8.2 Set up sidewalk protection below as per local jurisdiction and OSHA requirements.

9.5.6.8.3 Rinse masonry-joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at the time of pointing, excess water has evaporated or run off and joint surfaces are damp but free of standing water.

9.5.6.8.4 Apply the first layer of pointing mortar to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8" until a uniform depth is formed. Compact each layer thoroughly and allow it to become thumbprint hard before applying the next layer.

9.5.6.8.5 After joints have been filled to a uniform depth, place remaining pointing mortar in 3 layers with first and second layers each filling about two-fifths of joint depth; third layer, the remaining one-fifth. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing bricks have rounded edges, slightly recess final layer from face. Take care not to spread mortar over edges onto exposed masonry surfaces or to featheredge mortar.

9.5.6.8.6 When mortar is thumbprint hard, tool joints to match original appearance of joints, unless otherwise indicated. Remove excess mortar from edge of joint by brushing.

9.5.6.8.7 Cure mortar by maintaining in a damp condition for at least 72 hours.

9.5.6.8.8 Where repointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.

9.5.6.8.9 After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use stiff nylon or fiber brushes and clean water, spray applied at a low pressure.

9.5.6.8.10 Do not use metal scrapers or brushes.

9.5.6.8.11 Do not use acidic or alkaline cleaners.

9.5.6.9 Removal of Roof Parapets – Swingstage (high-rise) a) Removal of 3 wythe brick parapet wall (24" high) b) Removal of 3 wythe brick parapet wall (42" high) c) Removal of 2 wythe brick parapet wall (24" high) d) Removal of 3 wythe brick parapet wall (42" high)

9.5.6.9.1 Set up swingstage as per local jurisdiction and OSHA requirements.

9.5.6.9.2 Set up sidewalk protection below as per local jurisdiction and OSHA requirements.

9.5.6.9.3 Remove deteriorated, loose and spalled bricks using handheld tools such as chisel and mallet. Remove solid portions of the parapet walls that are scheduled to be removed using power tools (15 lb chipping hammers).

9.5.6.9.4 Remove walls carefully so the portions of the wall that are to remain are not damaged. Do not spall edges of masonry units or widen joints. Replace damaged masonry units.

9.5.6.9.5 Dispose of demolished material in a legal manner.

9.5.6.10 Removal of Roof Parapets – Scaffolding (low-rise) a) Removal of 3 wythe brick parapet wall (24" high) b) Removal of 3 wythe brick parapet wall (42" high) c) Removal of 2 wythe brick parapet wall (24" high) d) Removal of 3 wythe brick parapet wall (42" high)

9.5.6.10.1 Set up scaffolding as per local jurisdiction and OSHA requirements.

9.5.6.10.2 Set up sidewalk protection below as per local jurisdiction and OSHA requirements.

9.5.6.10.3 Remove deteriorated, loose and spalled bricks using handheld tools such as chisel and mallet. Remove solid portions of the parapet walls that are scheduled to be removed using power tools (15 lb chipping hammers).

9.5.6.10.4 Remove walls carefully so the portions of the wall that are to remain are not damaged. Do not spall edges of masonry units or widen joints. Replace damaged masonry units.

9.5.6.10.5 Dispose of demolished material in a legal manner.

9.5.6.11 Reconstruction of Brick Masonry Roof Parapets – Swingstage (high-rise)

a) New brick masonry parapet w/stone coping and flashings (3 wythe - 24" high)
b) New brick masonry parapet w/stone coping and flashings (3 wythe - 42" high)
c) New brick masonry parapet w/stone coping and flashings (2 wythe - 24" high)
d) New brick masonry parapet w/stone coping and flashings (2 wythe - 42" high)

9.5.6.11.1 Set up swingstages as per local jurisdiction and OSHA requirements.

9.5.6.11.2 Set up sidewalk protection below as per local jurisdiction and OSHA requirements.

9.5.6.11.3 Thickness: Build brick masonry construction to the full thickness shown. 9.5.6.11.4 Cut brick masonry units with motor-driven saws to provide clean, sharp, unchipped edges. Cut units as required to provide a continuous pattern and to fit adjoining construction. Where possible, use full-size units without cutting. Allow units cut with water-cooled saws to dry before placing, unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

9.5.6.11.5 Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.

9.5.6.11.6 Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.

9.5.6.11.7 Wetting of Brick: Wet brick before laying if the initial rate of absorption exceeds 30g/30 sq. in. per minute when tested per ASTM C 67. Allow units to absorb water so they are damp but not wet at the time of laying.

9.5.6.11.8 Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

9.5.6.11.9 Bond Pattern for Exposed Masonry: Lay exposed brick masonry to match the existing bond pattern.

9.5.6.11.10 Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 2 inches. Bond and interlock each course of each wythe at corners. Do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

9.5.6.11.11 Lay solid brick-size masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.

9.5.6.11.12 Use type N or S mortar.

9.5.6.11.13 Provide masonry joint reinforcement installed in horizontal mortar joints to bond wythes together.

9.5.6.11.14 Provide continuous masonry joint reinforcement as indicated. Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches. Space reinforcement not more than 8 inches o.c in parapet walls. Cut or interrupt joint reinforcement at control and expansion joints, unless otherwise indicated. Provide continuity at corners and wall intersections by using prefabricated "L" and "T" sections. Cut and bend reinforcing units as directed by manufacturer for continuity at returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

9.5.6.11.15 Provide cast stone units complying with ASTM C 1364. Provide units that are resistant to freezing and thawing as determined by laboratory testing according to ASTM C 666, Procedure A, as modified by ASTM C 1364. Colors and Textures: Match existing units. Reinforce units as indicated and as required by ASTM C 1364. Use galvanized or epoxy- coated reinforcement when covered with less than 1-1/2 inches of material.

9.5.6.11.16 Set cast stone as indicated on drawings. Install anchors, supports, fasteners, and other attachments indicated or necessary to secure units in place. Set units accurately in locations indicated with edges and faces aligned according to established relationships and indicated tolerances. Provide stainless steel anchors, a minimum of two anchors per stone. Provide led coated copper cap flashing above brick masonry parapet. Drench units with clear water just before setting. Set units in full bed of mortar with full head joints, unless otherwise indicated. Build anchors and ties into mortar joints as units are set. Fill dowel holes and anchor slots with mortar. Fill collar joint solid as units are set. Build concealed flashing into mortar joints as units are set. Leave head joints open in coping and other units with exposed horizontal surfaces. Keep joints clear of mortar and rake out to receive sealant. Install joint sealants at joints in the stones.

9.5.6.12 Reconstruction of Brick Masonry Roof Parapets – Scaffolding (low-rise)

a) New brick masonry parapet w/stone coping and flashings (3 wythe - 24” high)
b) New brick masonry parapet w/stone coping and flashings (3 wythe - 42” high)
c) New brick masonry parapet w/stone coping and flashings (2 wythe - 24” high)
d) New brick masonry parapet w/stone coping and flashings (2 wythe - 42” high)

9.5.6.12.1 Set up scaffolding as per local jurisdiction and OSHA requirements.

9.5.6.12.2 Set up sidewalk protection below as per local jurisdiction and OSHA requirements.

9.5.6.12.3 Thickness: Build brick masonry construction to the full thickness shown. 9.5.6.12.4 Cut brick masonry units with motor-driven saws to provide clean, sharp, unchipped edges. Cut units as required to provide a continuous pattern and to fit adjoining construction. Where possible, use full-size units without cutting. Allow units cut

with water-cooled saws to dry before placing, unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

9.5.6.12.5 Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.

9.5.6.12.6 Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.

9.5.6.12.7 Wetting of Brick: Wet brick before laying if the initial rate of absorption exceeds 30g/30 sq. in. per minute when tested per ASTM C 67. Allow units to absorb water so they are damp but not wet at the time of laying.

9.5.6.14.8 Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

9.5.6.14.9 Bond Pattern for Exposed Masonry: Lay exposed brick masonry to match the existing bond pattern.

9.5.6.14.10 Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 2 inches. Bond and interlock each course of each wythe at corners. Do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

9.5.6.12.11 Lay solid brick-size masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.

9.5.6.12.12 Use type N or S mortar.

9.5.6.12.13 Provide masonry joint reinforcement installed in horizontal mortar joints to bond wythes together.

9.5.6.12.14 Provide continuous masonry joint reinforcement as indicated. Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls,1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches. Space reinforcement not more than 8 inches o.c in parapet walls. Cut or interrupt joint reinforcement at control and expansion joints, unless otherwise indicated. Provide continuity at corners and wall intersections by using prefabricated "L" and "T" sections. Cut and bend reinforcing units as directed by manufacturer for continuity at returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

9.5.6.12.15 Provide cast stone units complying with ASTM C 1364. Provide units that are resistant to freezing and thawing as determined by laboratory testing according to ASTM C 666, Procedure A, as modified by ASTM C 1364. Colors and Textures: Match existing units. Reinforce units as indicated and as required by ASTM C 1364. Use galvanized or epoxy- coated reinforcement when covered with less than 1-1/2 inches of material.

9.5.6.12.16 Set cast stone as indicated on drawings. Install anchors, supports, fasteners, and other attachments indicated or necessary to secure units in place. Set units accurately in locations indicated with edges and faces aligned according to established relationships and indicated tolerances. Provide stainless steel anchors, a minimum of two anchors per stone. Provide led coated copper cap flashing above brick masonry parapet. Drench units with clear water just before setting. Set units in full bed of mortar with full head joints, unless otherwise indicated. Build anchors and ties into mortar joints as units are set. Fill dowel holes and anchor slots with mortar. Fill collar joint solid as units are set. Build concealed flashing into mortar joints as units are set. Leave head joints open in coping and other units with

exposed horizontal surfaces. Keep joints clear of mortar and rake out to receive sealant. Install joint sealants at joints in the stones.

9.5.6.13 New Throughwall Flashings – Swingstage (high-rise)

a) Removal of 4 courses 1 wythe brick wall w/Temporary Shoring
b) Removal and replacement of steel lintel
c) Furnish and install new flashings (Bituthane)
d) Furnish and install new flashings (Lead coated copper)
e) Parging and waterproofing of back-up wall

9.5.6.13.1 Set up swingstage as per local jurisdiction and OSHA requirements.

9.5.6.13.2 Set up sidewalk protection below as per local jurisdiction and OSHA requirements.

9.5.6.13.3 Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.

9.5.6.16.4 Remove 4 courses of the exterior 1 wythe brick using handheld tools, sawcutting and chipping hammers without damaging adjacent masonry.

9.5.6.13.5 Provide needle supports to support the exterior wythe at a minimum 2'-0" o.c.

9.5.6.13.6 Remove corroded steel shelf angle and replace with new. New steel shall be hot dip galvanized.

9.5.6.13.7 Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Unless otherwise indicated, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.

9.5.6.13.8 If the backup wall is rough and full of mortar projections, remove projections and parge the wall using approved mortar. Waterproof the back-up wall using bituthane waterproofing sheet.

9.5.6.13.9 Install flashing as follows: At multiwythe masonry walls, including cavity walls, extend flashing from exterior face of outer wythe of masonry, through outer wythe, turned up a minimum of 8 inches and through inner wythe to within 1/2 inch of the interior face of the wall in exposed masonry. Where interior surface of inner wythe is concealed by furring, carry flashing completely through inner wythe and turn flashing up approximately 2 inches, unless otherwise indicated.

9.5.6.13.9.1 At masonry-veneer walls, extend flashing from exterior face of veneer, through veneer, up face of sheathing at least 8 inches and behind air-infiltration barrier or building paper.

9.5.6.13.9.2 At lintels and shelf angles, extend flashing a minimum of 4 inches into masonry at each end. At heads and sills, extend flashing 4 inches at ends and turn flashing up not less than 2 inches to form a pan.

9.5.6.13.9.3 Interlock end joints of ribbed sheet metal flashing by overlapping ribs not less than 1-1/2 inches or as recommended by flashing manufacturer, and seal lap with elastomeric sealant complying with requirements in Division 7 Section "Joint Sealants" for application indicated.

9.5.6.13.9.4 Extend sheet metal flashing 1/2 inch beyond face of masonry at exterior and turn flashing down to form a drip.

9.5.6.13.9.5 Install metal drip edges beneath flashing at exterior face of wall. Stop flashing 1/2 inch back from outside face of wall and adhere flashing to top of metal drip edge.

9.5.6.13.9.6 Install metal flashing termination beneath flashing at exterior face of wall. Stop flashing 1/2 inch back from outside face of wall and adhere flashing to top of metal flashing termination.

9.5.6.13.9.7 Cut flashing off flush with face of wall after masonry wall construction is completed.

9.5.6.13.9.8 Flashing sheet shall be bituthane membrane or lead coated copper sheet and /or both.

9.5.6.13.10 Install weep holes in the head joints in exterior wythes of the first course of masonry immediately above embedded flashing and as follows:

9.5.6.13.10.1 Use rectangular plastic tubing and/or wicking material to form weep holes.

9.5.6.13.10.2 Use wicking material to form weep holes above flashing in brick sills. Turn wicking down at lip of sill to be as inconspicuous as possible.

9.5.6.13.10.3 Space weep holes 24 inches o.c.

9.5.6.13.10.4 Space weep holes formed from plastic tubing 16 inches o.c.

9.5.6.13.10.5 In cavities, place mortar screens or pea gravel to a height equal to height of first course, but not less than 2 inches immediately above top of flashing embedded in the wall, as masonry construction progresses, to splatter mortar droppings and to maintain drainage.

9.5.6.13.10.6 Place cavity drainage material immediately above flashing in cavities.

9.5.6.13.10.7 In cavities insulated with loose-fill insulation, cover cavity side of open weep holes with plastic insect screening before placing insulation in cavity.

9.5.6.14. New Throughwall Flashings – Scaffolding (low-rise)

a) Removal of 4 courses 1 wythe brick wall w/Temporary Shoring
b) Removal and replacement of steel lintel
c) Furnish and install new flashings (Bituthane)
d) Furnish and install new flashings (Lead coated copper)
e) Parging and waterproofing of back-up wall

9.5.6.14.1 Set up scaffolding as per local jurisdiction and OSHA requirements.

9.5.6.14.2 Set up sidewalk protection below as per local jurisdiction and OSHA requirements.

9.5.6.14.3 Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.

9.5.6.14.4 Remove 4 courses of the exterior 1 wythe brick using handheld tools, sawcutting and chipping hammers without damaging adjacent masonry.

9.5.6.14.5 Provide needle supports to support the exterior wythe at a minimum 2'-0" o.c.

9.5.6.14.6 Remove corroded steel shelf angle and replace with new. New steel shall be hot dip galvanized.

9.5.6.14.7 Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Unless otherwise indicated, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.

9.5.6.14.8 If the backup wall is rough and full of mortar projections, remove projections and parge the wall using approved mortar. Waterproof the back-up wall using bituthane waterproofing sheet.

9.5.6.14.9 Install flashing as follows: At multiwythe masonry walls, including cavity walls, extend flashing from exterior face of outer wythe of masonry, through outer wythe, turned up a minimum of 8 inches and through inner wythe to within 1/2 inch of the interior face of the wall in exposed masonry. Where interior surface of inner wythe is concealed by furring, carry flashing completely through inner wythe and turn flashing up approximately 2 inches, unless otherwise indicated.

9.5.6.14.9.1 Masonry-veneer walls extend flashing from exterior face of veneer, through veneer, up face of sheathing at least 8 inches and behind air-infiltration barrier or

building paper. At lintels and shelf angles, extend flashing a minimum of 4 inches into masonry at each end.

9.5.6.14.9.2 At heads and sills, extend flashing 4 inches at ends and turn flashing up not less than 2 inches to form a pan.

9.5.6.14.9.3 Interlock end joints of ribbed sheet metal flashing by overlapping ribs not less than 1-1/2 inches or as recommended by flashing manufacturer, and seal lap with elastomeric sealant complying with requirements in Division 7 Section "Joint Sealants" for application indicated.

9.5.6.14.9.4 Extend sheet metal flashing 1/2 inch beyond face of masonry at exterior and turn flashing down to form a drip.

9.5.6.14.9.5 Install metal drip edges beneath flashing at exterior face of wall. Stop flashing 1/2 inch back from outside face of wall and adhere flashing to top of metal drip edge.

9.5.6.14.9.6 Install metal flashing termination beneath flashing at exterior face of wall. Stop flashing 1/2 inch back from outside face of wall and adhere flashing to top of metal flashing termination.

9.5.6.14.9.7 Cut flashing off flush with face of wall after masonry wall construction is completed.

9.5.6.14.9.8 Flashing sheet shall be bituthane membrane or lead coated copper sheet and /or both.

9.5.6.14.9.10 Install weep holes in the head joints in exterior wythes of the first course of masonry immediately above embedded flashing and as follows:

9.5.6.14.10.1 Rectangular plastic tubing and/or wicking material to form weep holes.

9.5.6.14.10.2 Use wicking material to form weep holes above flashing in brick sills. Turn wicking down at lip of sill to be as inconspicuous as possible.

9.5.6.14.10.3 Space weep holes 24 inches o.c.

9.5.6.14.10.4 Space weep holes formed from plastic tubing 16 inches o.c.

9.5.6.14.10.5 In cavities, place mortar screens or pea gravel to a height equal to height of first course, but not less than 2 inches immediately above top of flashing embedded in the wall, as masonry construction progresses, to splatter mortar droppings and to maintain drainage.

9.5.6.14.10.6 Place cavity drainage material immediately above flashing in cavities.

9.5.6.14.10.7 In cavities insulated with loose-fill insulation, cover cavity side of open weep holes with plastic insect screening before placing insulation in cavity.

9.5.6.15 Brick Masonry/Stone Stabilization.

a) Drilling and installation of new friction pins with mortar cap.

b) Drilling and installation of new friction pins for limestone with mortar cap.

9.5.6.15.1 Set up swingstage/scaffolding as per local jurisdiction and OSHA requirements.

9.5.6.15.2 Set up sidewalk protection below as per local jurisdiction and OSHA requirements.

9.5.6.15.3 This procedure is only for brick walls and stones that need to be stabilized laterally and have good bearing supports.

9.5.6.15.4 Use one of the following products: Dur-O-Wall Friction pin or Helifix Dryfix Masonry pin.

9.5.6.15.5 Install pins using manufacturer's propriety insertion tools and as per manufacturer's installation directions.

9.5.6.15.6 Install pins every three courses of brick @ 24 inches on center. For stones, install one pin per 2 square feet.

9.5.6.15.7 Determine required length of pin in the field. Minimum embed into backup wall 3 inches.

9.5.6.15.8 Plug holes in the brick wall mortar joint and stone joints using new mortar to match existing.

9.5.6.16 Limestone Removal and Replacement.

a) Removal of existing deteriorated architectural limestone.
b) Furnish and install new limestone replacement.
c) Replacement of stone with lightweight polymer resin to match.
d) Minor patching of existing stone to match.

9.5.6.16.1 Set up swingstage/scaffolding as per local jurisdiction and OSHA requirements.

9.5.6.16.2 Set up sidewalk protection below as per local jurisdiction and OSHA requirements.

9.5.6.16.3 Remove cracked, deteriorated limestone by sawcutting perimeter, using chisels and mallets, carefully so as not to damage and chip adjacent panels.

9.5.6.16.4 Furnish and install new limestone to match existing. Provide bearing supports and anchors for lateral support.

9.5.6.16.5 Furnish and install simulated limestone to match existing manufactured using polymer resins.

Manufacturer: Product: Micro terra cotta; Manufacturer: Granetech; Ph: 815-899-9288.

9.5.6.16.6 Repair small spalls and cracks in limestone using Jhan Mortar M70. Match mortar to existing panel in color and texture. Use mortar as per manufacturer's installation instructions.

9.5.6.17 Terra Cotta Removal and Replacement.

a) Removal of existing deteriorated architectural Terra Cotta.
b) Furnish and install new Terra Cotta replacement.
c) Replacement of stone with lightweight polymer resin to match.
d) Minor patching of existing stone to match.

9.5.6.17.1 Set up swingstage/scaffolding as per local jurisdiction and OSHA requirements.

9.5.6.17.2 Set up sidewalk protection below as per local jurisdiction and OSHA requirements.

9.5.6.17.3 Remove cracked, deteriorated terra cotta by sawcutting perimeter, using chisels and mallets, carefully so as not to damage and chip adjacent panels.

9.5.6.17.4 Furnish and install new terra cotta stone to match existing. Provide bearing supports and anchors for lateral support.

9.5.6.17.5 Furnish and install simulated terra cotta stone to match existing manufactured using polymer resins. Manufacturer: Product: Micro terra cotta; Manufacturer: Granetech; Ph: 815-899- 9288.

9.5.6.17.6 Repair small spalls and cracks in terra cotta stone using Jhan Mortar M100. Match mortar to existing panel in color and texture. Use mortar as per manufacturer's installation instructions.

9.5.6.18 Roof Coping Stones.

a) Removal of existing roof coping stones (16 inches).
b) Removal and parging of existing substrate.
c) Furnish and install new lead coated copper flashings.
d) Drilling and epoxy grouting stainless steel pins.
e) Reinstallation of existing stones with cleaning.
f) Furnish and install new coping stones.
g) Furnish and install new sealants between coping stones.
h) Cleaning and coating of existing stones.

9.5.6.18.1 Set up swingstage/scaffolding as per local jurisdiction and OSHA requirements.

9.5.6.18.2 Set up sidewalk protection below as per local jurisdiction and OSHA requirements.

9.5.6.18.3 Remove existing deteriorated coping stones carefully without damaging the masonry below.

9.5.6.18.4 Remove deteriorated mortar bed below using chisels and mallets and other handheld tools without damaging masonry and parge the top of the wall to provide an even surface for the stone.

9.5.6.18.5 Replace only damaged coping stones. Provide new cast stone units complying with ASTM C 1364. Provide units that are resistant to freezing and thawing as determined by laboratory testing according to ASTM C 666, Procedure A, as modified by ASTM C 1364. Colors and Textures: Match existing units. Reinforce units as indicated and as required by ASTM C 1364. Use galvanized or epoxy-coated reinforcement when covered with less than 1-1/2 inches of material.

9.5.6.18.6 Set cast stone as indicated on drawings. Install anchors, supports, fasteners, and other attachments indicated or necessary to secure units in place. Set units accurately in locations indicated with edges and faces aligned according to established relationships and indicated tolerances. Provide stainless steel anchors, a minimum of two anchors per stone. Provide 20 OZ Cheney interlocking copper cap flashing above brick masonry parapet. Drench units with clear water just before setting. Set units in full bed of mortar with full head joints, unless otherwise indicated. Build anchors and ties into mortar joints as units are set. Fill dowel holes and anchor slots with mortar. Fill collar joint solid as units are set. Build concealed flashing into mortar joints as units are set. Leave head joints open in coping and other units with exposed horizontal surfaces. Keep joints clear of mortar and rake out to receive sealant. Install joint sealants at joints in the stones.

9.5.6.18.7 The existing coping stones are to be cleaned using power wash with mild detergent before re- installation.

9.5.6.18.8 Apply a water repellent surface sealer or waterproof coating as specified.

9.5.6.19 CMU Backup Wall Repair and Waterproofing.

a) Replacement of Deteriorated CMU Back-up.
b) Parging of CMU back-up wall.
c) Waterproofing of back-up wall.

9.5.6.19.1 Set up swingstage/scaffolding as per local jurisdiction and OSHA requirements.

9.5.6.19.2 Set up sidewalk protection below as per local jurisdiction and OSHA requirements.

9.5.6.19.3 Remove loose deteriorated CMU units using handheld tools such as chisels and mallets.

9.5.6.19.4 Remove excess mortar protruding from the wall and fill gaps in the joints.

9.5.6.19.5 Parge the surface of the wall even using mortar.

9.5.6.19.6 Waterproof the wall using W.R. Grace Bituthane waterproofing sheet as per manufacturer's instructions. Seal holes in the membrane sheet caused by the metal ties using mastic or other sealants approved by the membrane manufacturer.

9.5.6.20 Brick Masonry Piers.

a) Isolated repair of existing masonry piers (removal and replacement).
b) Reconstruction of isolated areas of pier.
c) Construction of new masonry piers.

9.5.6.20.1 Set up protection, scaffolding/swingstage as per OSHA requirements.

9.5.6.20.2 Remove deteriorated/cracked brick/masonry (individual units or an area) using handheld tools, chisels and mallets without damaging adjacent masonry units.

9.5.6.20.3 Provide and install new brick/masonry units and mortar to match existing. Provide reinforcing ties at joints. Provide a minimum of 2 ties, if repair area is less than 2 sq.ft, and 1 tie per 1 sq. ft. area of replacement.

9.5.6.20.4 Provide and construct new 16"x16" brick masonry pier. The masonry units and the mortar to match existing in color and texture. Provide joint reinforcement every three courses.

9.5.6.21 Crack Repair.

a) Drill and install new stainless-steel pins.
b) Grouting of open cracks.
c) Replacement of cracked bricks.

9.5.6.21.1 Set up protection, scaffolding/swingstage as per OSHA requirements.

9.5.6.21.2 Drill and install stainless steel 3/8" dia. threaded rods or pins or Sika propriety anchors in the mortar joints on both side of the crack. The pins shall have a minimum embedment of 2 inches into the back-up wall. Install pins every three courses or 12 inches o.c.

9.5.6.21.3 In solid masonry walls, grout the cracks using non-shrink grout injecting under pressure.

9.5.6.21.4 Remove cracked bricks and install new bricks to match existing.

9.5.6.22 Concrete Removal.

a) Perimeter sawcutting.
b) Removal of existing concrete (2" depth).
c) Removal of existing concrete (3.5" depth).

9.5.6.22.1 Setup sidewalk protection, perimeter netting as required by local authorities and OSHA.

9.5.6.22.2 Setup swingstage/scaffolding as per OSHA and local requirements.

9.5.6.22.3 Sound the concrete slab, beam edge and/or other deteriorated and sound concrete surfaces using a hammer or sounding device and mark locations of concrete delaminations.

9.5.6.22.4 Sawcut the perimeter of the repair area ½" deep without cutting any reinforcement.

9.5.6.22.5 Using 15-pound chipping hammers, remove delaminated and sound concrete to expose embedded steel reinforcement. The removal shall extend to expose at least 6 inches of clean reinforcement without any corrosion. Remove concrete a minimum of ¾" below the reinforcing or to sound concrete.

9.5.6.23 New Concrete and Coating.

a) Placement of new high strength patching mortar (2" depth).
b) Placement of new high strength patching mortar (3.5" depth). c) Cleaning and coating of concrete surface.

9.5.6.23.1 Setup sidewalk protection, perimeter netting as required by local authorities and OSHA.

9.5.6.23.2 Setup swingstage/scaffolding as per OSHA and local requirements.

9.5.6.23.3 Use "Eucocrete" by Euclid Chemical Company or approved equal.

9.5.6.23.4 The existing concrete must be clean and rough. The surface must be prepared using scabbler, bushhammer or scarifier which will give a surface profile of a minimum of 1/8" and expose the coarse aggregate of the concrete.

9.5.6.23.5 Edges should be sawcut ¼" deeper than the depth of repair and the floor should be notched at the edge of repair to provide a lock-in, reinforced edge.

9.5.6.23.6 Wet concrete surface and keep it damp. No ponding of water on the surface.

9.5.6.23.7 Apply a scrub coat of Eucocrete with SBR latex.

9.5.6.23.8 Mix Eucocrete as per manufacturer's instruction and place concrete and finish to the texture specified. Do not add additional water for finishing.

9.5.6.23.9 Wet cure area for three days. If wet cure is not possible, cure the floor with a high solids curing compound such as Super Aqua-Cure, Super Rezseal by Euclid or approved equal. In hot, windy or direct sunlight situations, re-wet the surface after the curing compound has dried and cover the area with polyethelene for a minimum of three days.

9.5.6.23.10 For patching vertical and overhead surfaces, use Euclid "Verticoat" or Sika SHB patching mortar. Install and cure as per manufacturer's instructions.

9.5.6.23.11 After 28 days of curing, clean concrete surface free of all laintance and curing compounds using power washing, grinding and/or shotblasting and install waterproof coating as per manufacturer's recommendations.

9.5.6.23.12 For vertical and overhead concrete surfaces, install Tremco "walltite" or approved equal.

9.5.6.23.13 For horizontal traffic surfaces, use Vulkem "Traffic Membrane Light Duty" or approved equal.

9.5.6.24 Sidewalk Bridging.

9.5.6.24.1 Furnish and install new sidewalk bridge with lighting conforming to local ordinances and OSHA regulations.

9.5.6.24.2 Sidewalk bridges should be designed to carry a minimum superimposed load of 300 PSF, but not less than the load required by the local ordinances.

9.5.6.24.3 Sidewalk bridges shall not obstruct buildings entrances, exits, fire escapes and stairs.

9.5.6.24.4 Sidewalk bridges shall be designed by a Professional Engineer registered in the state where the project is located, and the drawings should be approved by the Building Dept. or local agency prior to installation.

9.5.6.24.5 The sidewalk bridge should be checked and maintained and provide rental and maintenance costs.

9.5.6.25 Temporary Roof Protection

9.5.6.26.1 Protect existing roof from construction damage. Spread plastic sheet and cover the roof continuously with plywood. Place dead weight evenly on the plywood, so that they are not moved by heavy winds.

8.6 **Metal work**

8.6.1 **Remove standard metal decking**

8.6.1.1 Before work starts, area below work must be protected and/or barricaded before deck removal begins.

8.6.1.2 Remove deteriorated decking.

8.6.1.3 Dispose of old decking in an approved dumpsite or with scrap metal buyer.

8.6.1.4 All decking must be replaced and covered daily.

8.6.2 **Install metal decking.**

8.6.2.1 Steel galvanized metal deck units, ASTM A 446, Grade A; galvanizing per ASTM A 525, G60 (SDI "Design Manual for Floor Decks and Roof Decks").

8.6.2.2 Use coated self-tapping deck screws.

8.6.2.3 All welding per SWA "Structural Welding Code."

8.6.2.4 Paint must be rust inhibitive. Existing deck will be painted, where required.

8.6.2.5 Install deck units and accessories in accordance with manufacturer's recommendations and final shop drawings.

8.6.2.6 Place deck units on supporting steel framework and adjust to final position with ends accurately aligned and bearing on supporting members before being permanently fastened. Do not stretch or contract side lap interlocks.

8.6.2.7 Place deck unit in straight alignment for entire length of run of cells and with close alignment between cells at ends of abutting units.

8.6.2.8 Place deck units flat and square, secured to adjacent framing without warp or excessive deflection.

8.6.2.9 Do not place deck units on concrete supporting structure until concrete is cured and dry.

8.6.2.10 Coordinate and cooperate with structural steel erector in locating decking bundles to prevent overloading of structural members.

8.6.2.11 Fasten roof deck units to steel supporting members by not less than 1/2" diameter fusion welds or elongated welds of equal strength, spaced not more than 12" o.c. at supports, and at closer spacing where required for lateral force resistance.

8.6.2.12 Comply with AWS requirements and procedures for manual shielded metal arc welding, appearance and quality of welds and methods used in correcting welding work.

8.6.2.13 Use welding washers where recommended by deck manufacturer.
8.6.2.14 Lock side laps of adjacent deck units between supports with screws on 36" centers.
8.6.2.15 Provide reinforcement at opening to match that that exists.
8.6.3 **Install steel plate, two sizes.**
8.6.3.1 Galvanized, 10-gauge steel; also, extra heavy-duty, 1/4th inch thick. Mechanically attached to meet local needs. Must be supported to comply with surrounding/adjacent conditions. (Gauge to match existing, as necessary.)
8.6.3.2 Angle iron or steel plate, 1/4" mechanically attached to meet local needs. Must be supported to comply with surrounding/adjacent conditions.
8.6.3.3 Cover limited openings in a deck. Steel may be used as required in horizontal or vertical conditions, decking, coverings or framing.
8.6.4 **Remove metal counterflashing.**
8.6.4.1 Remove existing counterflashing.
8.6.4.2 Dispose of old counterflashing in an approved dumpsite or with scrap metal buyer.
8.6.5 **Counterflashing, galvanized, 24 gauge, 6" width.**
8.6.5.1 Sheet steel, ASTM 526, with 1.25 oz. per square foot galvanized coating.
8.6.5.2 Hemmed and with a 45° drip edge.
8.6.6 **Counterflashing, copper, 16 oz., 6" width.**
8.6.6.1 Copper, ASTM B 370-84O.
8.6.6.2 Hemmed and with a 45° drip edge.
8.6.7 **Remove metal edge, gravel stop, eave strip, or coping.**
8.6.7.1 Remove existing counterflashing.
8.6.7.2 Dispose of waste in an approved dumpsite or with scrap metal buyer.
8.6.8 **Metal edge raised, galvanized steel fascia/eave drip; 6" face, hemmed, continuous cleat, 3"deck flange.**
8.6.8.1 Steel, ASTM A 526, with 1.25 oz. per square feet galvanized coating.
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.
9.6.8.2 Metal fascia. In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.
9.6.8.3 Treated wood cant.
9.6.8.4 Approved fasteners, according to prime contractor.
9.6.8.5 Install face to roof edge. Installation to comply with fascia manufacturer's specifications.
9.6.8.6 Flash (seal) fascia as specified by manufacturer.
8.6.9 **Gravel stop, galvanized steel, 24 gauge, 6" face.**
8.6.9.1 Steel, ASTM A 526, with 1.25 oz. per square feet galvanized coating, 24 gauge.
8.6.9.2 Solder, ASTM B 32-93, alloy grade Sn50A. Neutralize flux after soldering.
8.6.9.3 Continuous cleat, 22-gauge sheet steel with 1.25 oz. per square feet galvanized coating.
8.6.9.4 Fabricate and install gravel stop per SMACNA and NRCA standards.
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.
8.6.9.5 Set flashing in asphalt mastic 3" on center, staggered.
8.6.9.6 Strip flange per roofing manufacturer's specifications.
8.6.9.7 Install butt plates between sections.
8.6.10 **Remove metal gutter.**
8.6.10.1 Remove existing gutter.
8.6.10.2 Dispose of old metal in an approved dumpsite or with scrap metal buyer.
8.6.11 **Cutter, galvanized steel, ASTM 526, with 1.25 oz/square foot galvanized coating, 24 gauge, 5" box or ogee style, joints and end caps shall be soldered.**
8.6.11.1 Install gutters where specified by work order.
8.6.11.2 Installation must conform to SMACNA manual details.

8.6.11.3 Stiffeners shall be installed 36" o.c.

8.6.11.4 Gutters shall have spacers and gutter brackets. Brackets shall be sized per manufacturer's instruction, or 36" on center with gutter spacers spaced equally between brackets. Brackets shall be sized per Table 1-8, Architectural Sheet Metal Manual, 5th edition.

8.6.11.5 Gutter shall be fabricated from flat stock (minimum 1/16 x 1 inch of the same material as the gutter). Spacers shall be attached as shown in the Architectural Sheet Metal Manual, 5th edition, figure 1-13A.

8.6.11.6 Owner may wish to match to existing gutter style and size. In such instances, the most stringent details in the Architectural Sheet Metal Manual, 5th edition, shall be the minimum standard.

8.6.11.7 Gutter expansion joints shall be sized per table 1-7 of the Architectural Sheet Metal Manual, 5th edition. Details shown in figures 1-5 and 1-6 are the minimum standards.

8.6.12 **Gutter, aluminum, .050" thick 5" box or ogee, painted, Kynar finish.**

8.6.12.1 Install gutters with approved fasteners where specified by work order.

8.6.12.2 Installation must conform to SMACNA manual details, and NRCA and roofing manufacturer's details.

8.6.12.3 Stiffeners shall be installed 36" o.c., as will support brackets.

8.6.13 **Gutter, copper, 16 oz, half round, 5" wide.**

8.6.13.1 Install pre-manufactured copper gutters with approved fasteners where specified by work order.

8.6.13.2 Installation must conform to SMACNA manual details, and NRCA and roofing manufacturer's details.

8.6.13.3 Stiffeners shall be installed 36" o.c., as will support brackets.

8.6.14 **Gutter, copper, 16 oz, half round, 6" wide.**

8.6.14.1 Install pre-manufactured copper gutters with approved fasteners where specified by work order.

8.6.14.2 Installation must conform to SMACNA manual details, and NRCA and roofing manufacturer's details.

8.6.14.3 Stiffeners shall be installed 36" o.c., as will support brackets.

8.6.15 **Remove metal downspouts.**

8.6.15.1 Remove existing downspouts.

8.6.15.2 Dispose of old downspouts in an approved dumpsite or with scrap metal buyer.

8.6.16 **Downspouts, aluminum, .024" thick, 3" x 4", painted, installed.**

8.6.16.1 Materials must have two coats of factory applied baked-on enamel; color selected by owner.

8.6.17 **Downspouts, GI, 24 gauge 3" x 4", installed.**

8.6.17.1 Materials per ASTM A 526, with 1.25 oz. per square feet galvanized coating.

8.6.18 **Downspouts, GI, 24 gauge, 4" round, installed.**

8.6.18.1 Materials per ASTM A 526, with 1.25 oz. per square feet galvanized coating.

8.6.19 **Downspouts, copper, 16 oz., 6" round, installed.**

8.6.19.1 ASTM B 370-84A, to match existing spouts.

8.6.20 **Downspouts, strainer.**

8.6.20.1 Copper.

8.6.20.2 Galvanized steel. In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

8.6.20.3 Install downspout strainer in gutter, where specified.

8.6.21 **Metal flashing, apron flashing, 9" wide.**

8.6.21.1 16 oz. copper per ASTM B 370-81.
8.6.21.2 Steel, ASTM A 526, with 1.25 oz. per square feet galvanized coating.
8.6.21.3 Installation must conform to NRCA and roofing manufacturer's details.
8.6.22 **Metal flashing, step flashing.**
8.6.22.1 16 oz. copper per ASTM B 370-81.
8.6.22.2 Steel, ASTM A 526, with 1.25 oz. per square feet galvanized coating.
8.6.22.3 Flashing must conform to SMACNA manual details.
8.6.23 **Metal splash pan, 16 oz.**
8.6.23.1 16 oz. copper per ASTM B 370-81.
8.6.23.2 Steel, ASTM A 526, with 1.25 oz. per square feet galvanized coating.
8.6.23.3 Solder and flux.
8.6.23.4 Fabricate splash pans a minimum of 12" wide, 18" long, with 1" sides hemmed 1/2" on 3 sides.
8.6.23.5 Installation must conform to SMACNA manual details.
8.6.24 **Metal trim, aluminum, .032" thick, painted.**
8.6.24.1 Material shall have a Kynar finish.
8.6.24.2 Fabricate and install metal trim to conform to building as specified in work order.
8.6.24.3 Installation must conform to SMACNA manual details.
8.6.25 **Metal storm collar.**
8.6.25.1 16 oz. copper per ASTM B 370-81.
8.6.25.2 Steel, ASTM A 526, with 1.25 oz. per square feet galvanized coating.
8.6.25.3 Stainless steel, 26-gauge, ASTM A 167-82.
8.6.25.4 Aluminum, .032, ASTM B 221-82A.
8.6.25.5 Install storm collars over all pitched pockets as directed by prime contractor using specified material.
8.6.25.6 Install in cone shaped configuration per NRCA.
8.6.26 **Metal coping, galvanized steel, 24 gauge, standing seam.**
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.
8.6.26.1 Steel, ASTM A 526, with 1.25 oz. per square feet galvanized coating.
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.
9.6.26.2 Continuous cleat, 22-gauge, galvanized sheet steel, ASTM A 526.
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.
9.6.26.3 Fasteners as specified by roofing manufacturer.
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.
9.6.26.4 Fabricate coping cap per SAMNA details.
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.
9.6.26.5 Fascia edges to extend past wood a minimum of 1".
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.
9.6.26.6 Fasten face with continuous lock strip.
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.
9.6.26.7 Fasten backside with screws and neoprene washers 30" o.c.
9.6.27 **Metal coping, galvanized steel, 24 gauge, with butt plate.**
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.
9.6.27.1 Steel, ASTM A 526, with 1.25 oz. per square feet galvanized coating.
9.6.27.2 Continuous cleat, 22-gauge, galvanized sheet steel, ASTM A 526.
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.
9.6.27.3 Fasteners as specified by roofing manufacturer.
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.
9.6.27.4 Fabricate coping cap with standing seams per SMACNA details.

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.27.5 Fascia edges to extend past wood a minimum of 1".

9.6.27.6 Fasten face with continuous lock strip.

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.27.7 Fasten backside with screws and neoprene washers

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.28 **Resolder joints in sheet metal.**

9.6.28.1 Flux, cleaner, and solder as needed, and experience.

9.6.28.2 Wire brush the joint.

9.6.28.3 Clean area to be soldered.

9.6.28.4 Apply flux and solder as per SMACNA specifications.

9.6.28.5 Clean up site when through.

9.6.29 **Metal edge, aluminum, .050" thick, 6" face, painted.**

9.6.29.1 Material shall have a Kynar finish.

9.6.29.2 Metal edge shall have a minimum 6" face. In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.29.3 Fabricate and install metal trim to conform to building as specified in work order.

9.6.29.4 Installation must conform to SMACNA manual details.

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.30 **Metal edge, aluminum, free floating fascia system.**

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.30.1 Metal edge shall have a minimum 6" face.

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.30.2 Fabricate and install metal trim to conform to building as specified in work order.

9.6.30.3 Assemble fascia sections, deck bracket units, and joint plate to form each 10' fascia section.

9.6.30.4 Begin at corners. Snap prefabricated corner with joint plates onto first fascia section.

9.6.30.5 Position onto corner and loosely secure. Install remaining sections.

9.6.30.6 Visually align. Secure deck brackets to wood nailer.

9.6.30.7 Install new wood cant strip over deck brackets. Apply roofing membrane to top edge of cant.

9.6.30.8 Installation must conform to SMACNA manual details.

9.6.31 **Parapet Wall Metal.**

9.6.31.1 Metal panels are factory roll-formed 26- or 24-gauge steel, coated both sides with a layer of (Galvalume), aluminum-zinc alloy (approximately 55% aluminum, 45% zinc) applied by continuous hot dip method. Triple-spot minimum 0.55 once per square foot as determined by the triple-spot test per ASTM specification A-792.

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.31.2 26 or 24 gauge galvanized, per ASTM specification A653, and painted with exterior colors of a full strength, 70% Kynar 500 & Hylar 5000 fluoropolymer coating.

9.6.31.3 Panels are designed in accordance with AISI "Specifications for the Design of LightGauge, Cold-Formed Steel Structural Members", or CAN/CSAS136 "Cold-Formed Steel Structural Steel Members" and in accordance with sound engineering methods and practices.

9.6.32 **Metal edge, anodized finished aluminum, free floating fascia system 8 inches.**

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.32.1 A heavy aluminum extrusion with reinforced hypalon elastomeric sheeting to form a flexible, free floating fascia system capable of accommodating dynamic perimeter roof movement.

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.32.2 Install per manufacturer's specifications.

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.33 **Metal edge, high performance fluorocarbon finished aluminum, free floating fascia system 8 inches.**

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.33.1 A heavy aluminum extrusion with reinforced hypalon elastomeric sheeting to form a flexible, free floating fascia system capable of accommodating dynamic perimeter roof movement.

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.33.2 Install per manufacturer's specifications.

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.34 **Metal edge, anodized finished aluminum, free floating fascia system 6 inches.**

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.34.1 A heavy aluminum extrusion with reinforced hypalon elastomeric sheeting to form a flexible, free floating fascia system capable of accommodating dynamic perimeter roof movement.

9.6.34.2 Install per manufacturer's specifications. In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.35 **Metal edge, high performance fluorocarbon finished aluminum, free floating fascia system 6 inches.**

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.35.1 A heavy aluminum extrusion with reinforced hypalon elastomeric sheeting to form a flexible, free floating fascia system capable of accommodating dynamic perimeter roof movement.

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.35.2 Install per manufacturer's specifications.

In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.6.36 **New Aluminum Metal Cladding.**

a) Furnish and install new uninsulated aluminum wall cladding.

b) Furnish and install new insulated aluminum wall cladding.

c) Furnish and install new insulated aluminum wall cladding panels (Architecture).

d) Cladding of roof parapet walls with copings.

9.6.36.1 Set up protection, scaffolding/swingstage as per OSHA requirements.

9.6.36.2 The aluminum panels are to be installed only on structurally sound walls. Provide concealed anchorages to the walls as recommended by the panel manufacturer.

9.6.36.3 The anchorages should be capable of withstanding the code stipulated wind loads.

9.6.36.4 The joints between panels should be overlapping and positively sealed against water and air intrusion.

9.6.37 **New Exterior Finish Insulation System.**

a) New exterior finish insulation system.

b) New exterior finish insulation system w/o insulation.

9.6.37.1 Furnish and install an EFIS system by Dryvit as per manufacturer's recommendation.

9.6.37.2 Incorporate air and vapor barrier and weeping system as recommended by the manufacturer.

9.6.38 **New Metal Copings.- New aluminum metal parapet copings.**

9.6.38.1 Set up protection, scaffolding/swingstage as per OSHA requirements.

9.6.38.2 Field measure the parapet wall for fabrication of the metal coping for tight fit.

9.6.38.3 Install wood blocking on top of the wall and anchored to the wall.

9.6.38.4 Install continuous cleats on both sides of the wood blocking.

9.6.38.5 Install new anodized aluminum coping snapped on tight to the cleats.

9.6.38.6 Adjacent sections should be lapped a minimum of six inches and the joints should be sealed watertight with sealants.

9.6.39 **Surface Preparation.**

a) Cleaning of existing steel and surface.

b) Coating of existing reinforcement.

9.6.39.1 Setup sidewalk protection, perimeter netting as required by local authorities and OSHA.

9.6.39.2 Setup swingstage/scaffolding as per OSHA and local requirements.

9.6.39.3 Remove all rust from rebars using grinders and other power tools and handheld tools.

9.6.39.4 Clean concrete surface free of all laitenace by blowing using compressed air or power washing the surface.

9.6.39.5 Coat exposed reinforcing with corrosion inhibitor such as Corr-Bond or Euco #452 LV Epoxy manufacturedbyEuclid Chemical Company or approved equal.

9.7 **Woodwork**

9.7.1 **Demolition of plywood or standard 1" x 6" decking.**

9.7.1.1 Before work starts, area below work must be protected and/or barricaded before deck removal begins.

9.7.1.2 Remove deteriorated decking, nails and fasteners.

9.7.1.3 Dispose of old decking that can't be reused in an approved dumpsite or, when asked, donate wood to school football team for homecoming bonfire.

9.7.1.4 Inspect roof joists; repair or replace as directed by prime contractor. (See separate line item.)

9.7.1.5 All decking must be replaced and covered daily and comply with OSHA, EPA, and local building codes and regulations.

9.7.2 **Demolition of standard 2" x 6" tongue and groove decking.**

9.7.2.1 Before work starts, area below work must be protected and/or barricaded before deck removal begins.

9.7.2.2 Remove deteriorated decking, nails and fasteners.

9.7.2.3 Dispose of old decking that can't be reused in an approved dumpsite or, when asked, donate wood to school drama club for theater set construction.

9.7.2.4 Inspect roof joists; repair or replace as directed by prime contractor.

9.7.2.5 All decking must be replaced and covered daily and comply with OSHA, EPA, and local building codes and regulations.

9.7.3 **Plywood decking, CDX, 1/2" thick (or 15/32" optional).**

9.7.3.1 Plywood panels shall be identified with the American Plywood Association (APA) grade trademark and shall meet the requirements of U.S. Products Standard PS-1 for soft plywood construction.

9.7.3.2 All plywood which has any edge or surface permanently exposed to weather shall be of the exterior type.

9.7.3.3 Plywood roof decking shall be grade C-D or better with exterior glue.

9.7.3.4 Proper fasteners shall be used.

9.7.3.5 Verify that surfaces to receive decking are prepared and ready.

9.7.4 **Plywood decking, CDX, 5/8" thick.**

9.7.4.1 Plywood panels shall be identified with the American Plywood Association (APA) grade trademark and shall meet the requirements of U.S. Products Standard PS-1 for soft plywood construction.

9.7.4.2 All plywood which has any edge or surface permanently exposed to weather shall be of the exterior type.

9.7.4.3 Plywood roof decking shall be grade C-D or better with exterior glue.

9.7.4.4 Proper fasteners shall be used.

9.7.4.5 Verify that surfaces to receive decking are prepared and ready.

9.7.5 **Plywood decking, CDX, 3/4" thick.**

9.7.5.1 Plywood panels shall be identified with the American Plywood Association (APA) grade trademark and shall meet the requirements of U.S. Products Standard PS-1 for soft plywood construction.

9.7.5.2 All plywood which has any edge or surface permanently exposed to weather shall be of the exterior type.

9.7.5.3 Plywood roof decking shall be grade C-D or better with exterior glue.

9.7.5.4 Proper fasteners shall be used.

9.7.5.5 Verify that surfaces to receive decking are prepared and ready.

9.7.6 **Standard 1" x 6" decking, tongue and groove.**

9.7.6.1 1 x 6 commercial grade with 15% maximum moisture content, single tongue and groove edges with FB-1200 psi. Must be stamped with *dry* stamp.

9.7.6.2 Nails must meet Federal Specification FF-N-105B for common nails, style 10, cement coated.

9.7.6.3 Verify that the surfaces are still ready to receive decking.

9.7.6.4 Install decking continuous over three supports.

9.7.6.5 Drive deck members tight using short block; do not hammer tongue. (Or fingers)

9.7.6.6 Nail each member to support with two 30d common blind and face nail for decking up to 2 1/4" thick and 40d common blind and face nail for decking 2 3/4" to 3" thick.

9.7.6.7 Toe nail groove to tongue at 40 to 50-degree angle starting l 1/4" from groove edge. Nail to each purlin using 8d common nails.

9.7.7 **Standard 2" x 6" tongue and groove decking.**

9.7.7.1 2 x 6 commercial grade with 15% maximum moisture content, single tongue and groove edges with FB-1200 psi. Must be stamped with *dry* stamp.

9.7.7.2 Nails must meet Federal Specification FF-N-105B for common nails, style 10, cement coated.

9.7.7.3 Verify that the surfaces are still ready to receive decking.

9.7.7.4 Install decking continuous over three supports.

9.7.7.5 Drive deck members tight using short block; do not hammer tongue. (Or fingers)

9.7.7.6 Nail each member to support with two 30d common blind and face nail for decking up to 2 1/4" thick and 40d common blind and face nail for decking 2 3/4" to 3" thick.

9.7.7.7 Toe nail groove to tongue at 40 to 50-degree angle starting l 1/4" from groove edge. Nail to each purlin using 8d common nails.

9.7.8 **Cants, wood fiber, trapezoidal, 1 1/2" x 5 5/8".**

9.7.8.1 Wood fiberboard, ASTM C 208, asphalt impregnated.

9.7.8.2 Type IV (or appropriate type) steep asphalt, ASTM D 312-84, UL Class A.

9.7.8.3 Install wood fiber cants set in a continuous mopping of steep asphalt at a rate of 25 lbs. per 100 square feet.

9.7.9 **Cants, treated wood, 4" x 4" diagonal.**

9.7.9.1 4 x 4 treated wood cut on bias to form cant strip. Southern Pine, No. 2 grade, free from warping and decay. Pressure treated with Chromated Copper Arsenate (CCA) to meet AWPB, LP22, 0.40 retention and marked.

9.7.9.2 Nails must meet Federal Specification FF-N-105B for common nails, style 10, cement coated.

9.7.9.3 Install treated cant to wood nailer as outlined in work order.

9.7.9.4 Cants to be nailed 16" o.c. and fastened to walls as required by roofing manufacturer.

9.7.9.5 Top edge shall be flush with wall.

9.7.9.6 Corners are to be mitered to fit snug.

9.7.10 **Nailer, treated wood, 1" x 4".**

9.7.10.1 1 x 4 treated wood. Southern Pine, No. 2 grade, free from warping and decay. Pressure treated with Chromated Copper Arsenate (CCA) to meet AWPB, LP22, 0.40 retention and marked. In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.7.10.2 Nails must meet Federal Specification FF-N-105B for common nails, style 10, cement coated.

9.7.10.3 Install wood blocking as outlined in work order.
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.7.10.4 Fasten blocking with approved fasteners in two rows staggered on 24" centers.

9.7.11 **Nailer, treated wood, 2" x 4". In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.**

9.7.11.1 2 x 4 treated wood. Southern Pine, No. 2 grade, free from warping and decay. Pressure treated with Chromated Copper Arsenate (CCA) to meet AWPB, LP22, 0.40 retention and marked.
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.7.11.2 Nails must meet Federal Specification FF-N-105B for common nails, style 10, cement coated.

9.7.11.3 Install wood blocking as outlined in work order.
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.7.11.4 Fasten blocking with approved fasteners in two rows staggered on 24" centers.

9.7.12 **Nailer, treated wood, 2" x 6" (or 2" x 8" optional).**
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.7.12.1 2 x 6 treated wood. Southern Pine, No. 2 grade, free from warping and decay. Pressure treated with Chromated Copper Arsenate (CCA) to meet AWPB, LP22, 0.40 retention and marked.
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.7.12.2 Nails must meet Federal Specification FF-N-105B for common nails, style 10, cement coated.

9.7.12.3 Install wood blocking as outlined in work order.
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.7.12.4 Fasten blocking with approved fasteners in two rows staggered on 24" centers.

9.7.13 **Curbing, treated wood, 2" x 12".**
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.7.13.1 2 x 12 treated wood. Southern Pine, No. 2 grade, free from warping and decay. Pressure treated with Chromated Copper Arsenate (CCA) to meet AWPB, LP22, 0.40 retention and marked.
In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.7.13.2 Nails must meet Federal Specification FF-N-105B for common nails, style 10, cement coated.

9.7.13.3 Prepare area to receive curb as outlined in work order. 9.7.13.4 Fabricate curb to fit opening as outlined in work order.

9.7.13.5 Nail or screw curb in place using applicable fastener for deck type.

9.7.14 **Joist, fir, 2" x 6".**

9.7.14.1 2 x 6 fir, standard grade or better for light framing; grade 2 or better for structural framing.

9.7.14.2 Nails must meet Federal Specification FF-N-105B for common nails, 16d, style 10, coated.

9.7.14.3 Bolts, ASTM A 309-76B, Grade A.

9.7.14.4 Lag screws and bolts FF-561-C, Type II, Hex Head, Grade B.

9.7.14.5 Toggle Bolts, Federal Specification FF-B-558-C, Type I, Class A, Style I.

9.7.14.6 Install new joist with crown edge up.

9.7.14.7 Support ends of each member minimum 3" of bearing on wood.

9.7.14.8 Lap members framing from opposite side of beams, minimum 4".

9.7.14.9 Support joist alternately at ends with solid blocking, 2" thick by depth of joist, between members crossing bearing joint.

9.7.14.10 When nominal depth to thickness ratio of joist exceeds 6, install bridging at 8' intervals.

9.7.14.11 Double rafters at roof openings to provide headers and trimmers and support with metal hangers following local building code.

9.7.15 **Joist, fir, 2" x 10".**

9.7.15.1 2 x 10 fir, standard grade or better for light framing; grade 2 or better for structural framing.

9.7.15.2 Nails must meet Federal Specification FF-N-105B for common nails, 16d, style 10, coated.

9.7.15.3 Bolts, ASTM A 309-76B, Grade A.

9.7.15.4 Lag screws and bolts FF-561-C, Type II, Hex Head, Grade B.

9.7.15.5 Toggle Bolts, Federal Specification FF-B-558-C, Type I, Class A, Style I.

9.7.15.6 Install new joist with crown edge up.

9.7.15.7 Support ends of each member minimum 3" of bearing on wood.

9.7.15.8 Lap members framing from opposite side of beams, minimum 4".

9.7.15.9 Support joist alternately at ends with solid blocking, 2" thick by depth of joist, between members crossing bearing joint.

9.7.15.10 When nominal depth to thickness ratio of joist exceeds 6, install bridging at 8' intervals.

9.7.15.11 Double rafters at roof openings to provide headers and trimmers and support with metal hangers following l

9.8 **Standing Seam Metal Roof System (SSMRS) installation, inspection, renovation, maintenance and repair equipment, supplies and materials.**

9.8.1 **(20-year roof) Pre-engineered SSMRS, products**

9.8.1.1 Pre-engineered metal roofs shall be systems with high locking ribs and concealed fastener clips that will allow the roof to experience natural expansion and contraction without damage to the seams or fasteners during extreme heat and cold conditions.

9.8.1.2 When possible, the SSMRS installed will be manufactured by one company. If the manufacturer is not the prime contractor, the SSMRS system will have the same warranty as other systems offered on this contract. The manufacturer must have been designing and manufacturing certified pre-engineered metal roofing systems for at least ten years; twenty years or more manufacturing experience is preferred. Roofing panels shall be formed by the manufacturer in their factory under ISO 9000 certification and practices.

9.8.1.3 The installer will be certified in the installation of metal roofing.

9.8.1.4 The design dead load (weight of the SSMRS components) shall be determined by the manufacturer, and shall not exceed the design load of the structure, as determined by structural analysis

9.8.1.5 Wind uplift loads shall meet or exceed FM-I-90. Thermal loads shall allow a 100- degree temperature range without damage to the structure.

9.8.1.6 Structural cold-formed steel framing members and their connections shall be in conformance to AISI SG-673. Slopes from 1/4:12 to 1/2:12 may require a trapezoidal panel.

9.8.1.7 Fasteners shall be zinc-coated , stainless steel or cadmium, aluminum, corrosion resistant steel, or nylon capped steel, as specified by the manufacturer. All exposed metal roof fasteners shall have the same coating and thickness of coating as the panels.

Any exposed metal roof fasteners shall be gasketed or have gasketed washers on the exterior side of the covering to waterproof the penetration. Washers shall be neoprene or other equally durable elastomeric material approximately 1/8th inch thick. Screws and bolts shall be as recommended by the manufacturer. Bolts shall have locking washers and nuts. Blind screw-type expandable fasteners shall be not less than 1/4th inch diameter; blind pop rivets shall be at least 9/32-inch diameter

9.8.1.8 Steel roof panels shall be designed in compliance with AISI SG-673; aluminum panels shall be designed in accordance with AA ASD-1 and AA ASD-30. On roofs with less than 30 feet of unbroken slope, panels shall be sufficiently long to cover the entire length. When length of run exceeds 30 feet and panel splices are provided, each sheet in the run shall extend over three or more supports. (Sheets longer than 30 feet may be provided, if approved by the buyer.) Runs of variable width panels may be used to maintain panel modularity. Factory punched structural members shall be used with pre-punched trapezoidal panels to ensure maintaining modularity. Panel clip attachments for trapezoidal panels shall be made using self-tapping 3/8" fastener into a pre-punched structural member that will allow for parallel alignment with panel corrugation. Sheets shall cover not more than 16 inches in place. SSMRS with panels in excess of 12 inches in width shall have standing seams rolled during installation by an electrically driven seaming machine. Standing seams shall be not less than 2 inches in height. Sheets shall be square-cut or miter-cut (except for gable end wall sheets that may be customized, as necessary). Roof panels shall have a factory color finish of a polyvinylidene fluoride coating not less than 0.8 mil over a primer coat with a dry film thickness of 0.3 mils on the exposed sides. Color shall be selected by the buyer. The interior prime coat shall not be less than 0.3 mils of primer. Sheets shall meet or exceed the salt spray test minimums with a rating of 10 and 7 (ASTM D 1654); for ASTM D 522, the panels will show ho evidence of fracturing; for ASTM G 23 using a type D apparatus to verify weathering, no cracking, peeling, blistering, loss of adhesion or corrosion shall be evident (also ASTM D 4214 and 2244). Panels shall pass a 1000-hour test for humidity as described in ASTM D 2247. Factory painted sheets shall be impact resistant (ASTM D 2794), resistant to abrasion (ASTM D 968), have a specular gloss of 20 or less at an angle of 60 degrees when measured by ASTM D 523, and be resistant to pollution in accordance with ASTM D 1308.

9.8.1.9 Accessories (see above and below, as necessary) shall be capable of resisting the specified design wind uplift loads and shall allow for expansion and contraction of the panels in the heat and cold. Any exposed fasteners shall not restrict the free movement of the roof panel system. Flashing, gutters, soffits, fascias, trim, metal closures strips, caps, and similar metal accessories shall be not less than the minimum thickness specified for the roofing panels and shall be color coordinated. Molded closure strips shall be closed-cell or solid-cell synthetic rubber or neoprene, or pre-molded polyvinyl chloride to match configuration of the covering. Accessories shall not absorb or retain water or snow. Thermal spacer blocks and other thermal barriers at concealed clip fasteners shall be as recommended by the manufacturer. Gutter liner products including, but not limited to, adhesives, splicing cements, solvents, and sealants shall be only those recommended by the manufacturer. Prefabricated shaped flashings shall be used when possible. Sheared edges shall be hemmed. Membranes shall be ultra-violet resistant materials and shall conform to ASTM D 4637, Grade 1: Type 1 (EPDM), Class SR, 0.060-inch minimum thickness.

9.8.1.10 Concealed anchor clips shall be supplied by the manufacturer. Clip bases shall have factory drilled or punched holes; clips used with panel width greater than 12 inches shall be made from multiple pieces to permit thermal expansion.

9.8.1.11 Prime contractor will use insulation with an R-value as high as practical that will result in the most economy for the buyer (2" minimum required for trapezoid roof panel). The R-value shall be determined using ASTM C 518. Insulation shall be flame resistant, as required in other portions of this IFB. Rigid board insulation shall conform to ASTM C 612, Form A, Class 1.

9.8.1.12 Sealant shall be elastomeric and contain no asphalt or oil; when exposed, the sealant shall cure to a rubber-like consistency (be non-hardening). Roof panel standing seam shall have a factory-installed continuous sealant.

9.8.1.13 Gaskets and insulating compounds shall be non-absorptive and suitable for insulating contact points of incompatible materials. Insulating compounds shall be non-running after drying.

9.8.1.14 If the system design calls for subpurlins, they shall meet manufacturers requirements. The uncoated thickness may be a minimum of 0.059 inches if bolts or structural blind fasteners are used to attach the concealed anchor clips to the subpurlins.

9.8.1.15 A vapor retarder material of polyethylene sheeting that conforms to ASTM D 4397 shall be used. A fully compatible tape must provide equal or better water vapor control, if used.

9.8.1.16 The prime contractor shall provide, upon request to the agency buyer, the following certifications:

9.8.1.16.1 That the actual thickness of the uncoated steel sheets used on the SSMRS components including roof panels, subpurlins, and concealed anchor clips comply with the specifications;

9.8.1.16.2 That the materials used in the installed components are made from certified steel coil materials;

9.8.1.16.3 That the SSMRS covered by the test report is, in fact, the same type, quality and manufacture as that specified; 4) that the sheets to be furnished are produced under a continuing quality control program and that a representative sample consisting of not less than five pieces have been tested and has met the quality standards specified for factory color finish; 5) mill certification for structural bolts and roof panels; and 6) factory detail drawings of systems details shall be provided.

9.8.1.17 Prior to installation, panels that are damaged or discolored will be removed from the worksite; buyer will not be charged for damaged, discolored, or improperly ordered panels or accessories.

9.8.1.18 Panels with improperly drilled holes shall not be used in the construction. No panels or parts will be installed that have metal cuttings, hazardous burrs, or exposed foreign material.

9.8.2 **Subpurlins**

9.8.2.1 Anchor the subpurlins to the purlins or other roof members with bolts or screws provided by the manufacturer.

9.8.2.2 Spacing shall not exceed 30 inches on centers at the corners, eaves, and roof edges. Spacing shall not exceed 60 inches (5 feet) for the remainder of the roof, unless specified by a structural engineer.

9.8.3 **Roof panel installation**

9 .8.3.1 Panels will be installed with the standing seams in the direction of the roof 9.8.3.2 slope. No panels shall be installed that contain tears or punctures.

9.8.3.3 Side seam connections for installed panels shall be completed at the end of each day's work.

9.8.3.4 Sealant will be applied, as recommended by the manufacturer to achieve water-tight roofing. End flaps, when approved by the buyer, shall be made over framing members.

9.8.3.5 Closures, flashings, EPDM rubber boots, and other accessories shall be installed, as per field drawings.

9.8.3.6 Exposed fasteners shall be installed in straight lines and shall be permitted only at the rakes, eaves, panel splices, and where required to attach flashings, gutter, and similar accessories.

9.8.3.7 Panel splices shall be staggered on all slopes less than 2:12.

9.8.3.8 All panel splices on trapezoid panels shall be staggered.

9.8.4 **Roof panel installation**

9.8.4.1 Panels will be installed with the standing seams in the direction of the roof slope. No panels shall be installed that contain tears or punctures.

9.8.4.1 Side seam connections for installed panels shall be completed at the end of each day's work.

9.8.4.2 Sealant will be applied, as recommended by the manufacturer to achieve water-tight roofing.

9.8.4.3 End flaps, when approved by the buyer, shall be made over framing members. 9.8.4.4 Closures, flashings, EPDM rubber boots, and other accessories shall be installed, as per field drawings.

9.8.4.5 Exposed fasteners shall be installed in straight lines and shall be permitted only at the rakes, eaves, panel splices, and where required to attach flashings, gutter, and similar accessories.

9.8.4.6 Panel splices shall be staggered on all slopes less than 2:12.

9.8.4.7 All panel splices on trapezoid panels shall be staggered.

9.8.5 **Concealed anchor clips**

9.8.5.1 Roof panels shall be fastened to framing members with concealed fastening clips or other concealed devices.

9.8.5.2 Clips shall be attached to the building's structural system or to the subpurlins with bolts or screws.

9.8.5.3 Clips shall be installed as in 3.8.1 above.

9.8.6 **Vapor retarder installation**

9.8.6.1 A general-purpose tape shall be installed over all the seams of the structural roof decking at any penetrating edges, and at all surface areas that exhibit sharp burrs or protrusions.

9.8.6.2 A double ply of 6 mil polyethylene sheet shall be installed over the entire deck surface, resulting in 12 mil of covering. (Optional 6 mil single ply may be priced, but only used when approved by the agency buyer.)

9.8.6.3 Tape shall be used to seal the edges to the sheets to the decking, to the edge of the roof supporting structure, or to the sheet below.

9.8.6.4 Sheet edges shall be overlapped not less than 6 inches.

9.8.6.5 Sufficient material shall be provided to avoid inducing stresses in the sheets due to stretching or binding.

9.8.6.6 All tears or punctures that are visible in the finished surface at any time during the construction process shall be sealed with the tape. Be fanatic about this detail.

9.8.7 **Insulation installation**

9.8.7.1 Insulation shall be installed as indicated by the manufacturer (see other sections that apply).

9.8.8 **Gutters (SSMRS only)**

9.8.8.1 Gutters shall terminate at least 1/2 inch away from vertical surfaces. Upper roofs will not drain on lower roofs. Gutters will carry water from upper roofs to the gutter of the lower roof.

9.8.8.2 Brackets and spacers shall be fastened to roof nailer by screws and shall interlock with or be fastened to the leading edge of the gutter.

9.8.8.3 Spacers shall be 1/16 inch by 1-inch flat stock of the same material as the gutter.

9.8.8.4 Brackets and spacers shall be alternated at not more than 36 inches on centers.

9.8.8.5 Gutters shall be integral with roof construction and long with high points equidistant from downspouts and shall have a slope of not less than 1/16 inch per foot.

9.8.8.6 Metal gutters shall be complete and suitable for liner membrane installation before roofing is begun. Surfaces against which membrane is applied shall be smooth, clean, and free from dirt, water, cigarette ashes, oil, grease, sharp edges and other debris.

9.8.9 **Flashing.**

9.8.9.1 Prefabricated flashing shall be used, where possible.

9.8.9.2 Sheared edges of metal flashings that contact the membrane shall be turned into a tight hem.

9.8.9.3 Edges of gutter liner shall be flashed.

9.8.9.4 Flashing will be used at roof hips and valleys, at roof penetrations, in joints between a roof and a vertical wall, and in places necessary to direct the flow of water or to control moisture.

9.8.9.5 The splice shall be sealed a minimum of 3-inches on each side of the fasteners that attach the membrane to the gutter.

9.8.9.6 The installed flashing shall be fastened at the top of the flashing a maximum of 12inches on center under metal counter-flashing on the high side of the gutter.

9.8.10 **Expansion joints**

9.8.10.1 Expansion joints shall be covered using elastomeric flashing in accordance with the manufacturer's recommendations.

9.8.10.2 Prime contractor shall design gutter corners, ends, expansion joints and expansion joint spacing.

9.8.11 **Finishing touches (no additional cost in contract).**

9.8.11.1 All work areas will be protected from damage by other trades.

9.8.11.2 After other trades are completed, any protective coverings will be removed, and the roof shall be inspected.

9.8.11.3 Exposed SSMRS shall be cleaned at completion of installation.

9.8.11.4 Debris, greases, oil films, and handling marks shall be removed.

9.8.11.5 Panels and roof surface shall be scrubbed clean, where necessary.

9.8.11.6 Exposed metal areas will be free of dents, creases, waves, scratch marks, solder and weld marks.

9.8.11.7 Abraded or corroded spots on painted surfaces shall be wire brushed and touch up painted with the same material used in the original coating.

9.8.11.8 Factory colored finishes shall be touched up as necessary with a paint recommended by the manufacturer.

9.8.11.9 The resulting roof will demonstrate American craftsmanship that will make the prime contractor proud and the owner pleased with the new roof.

9.8.11.10 Paint to match factory finish may be purchased for future use.

9.8.12 **Snow Retention Assemblies.**

9.8.12.1 Furnish all labor, material, tools, equipment and services for the installation of complete snow retention system as indicated on plans, and in accordance with provisions of Contract Documents.

9.8.12.2 Include all prefinished metal color strips to match the roof panels, splice connectors for crossmember sections, "SnoClips" if indicated on drawings and any miscellaneous related items necessary for a complete installation. 9.9 **Roof Specialties and Accessories**

9.9.4 **Remove roof hatch.**

9.9.4.1 Remove according to work order and dispose of in compliance with all laws.

9.9.5 **Roof hatch, aluminum, 2'6" x 3'0"**

9.9.5.1 Aluminum hatch, insulation curb and top, Bilco Type S or approved equal.

9.9.5.2 Install hatch as directed on work order.

9.9.5.3 Flash per line on work order.

9.9.6 **Roof hatch, aluminum, larger sizes**

9.9.6.1 Aluminum hatch, insulation curb and top, Bilco Type S or approved equal.

9.9.6.2 Install hatch as directed on work order.

9.9.6.3 Flash per line on work order.

9.9.7 **Remove existing roof drain, except plumbing**

9.9.7.1 Procure new roof drain manufactured by Josam or Smith, to match existing.

9.9.7.2 Prepare roof mat in drain area per work order.

9.9.7.3 Remove existing roof drain.

9.9.7.4 Install new drain and flash.

9.9.7.5 Install deck clamp per work order.

9.9.8 **Install new roof drain, except plumbing.**

9.9.8.1 Install new drain and flash, per work order.

9.9.9 **Reflash existing roof drain**

9.9.9.1 Asphalt primer per ASTM D 3960-87, quick drying.

9.9.9.2 4 lb. sheet lead, ASTM B 29-79 (84).

9.9.9.3 Reinforcement mesh, vinyl coated woven glass scrim, weight 1.32 lb/100 square feet per ASTM D 146-78A, tensile strength 75 lbf per ASTM D 146-78A.

9.9.9.4 Asphalt mastic, heavy fiberated mastic with penetrating oils and plasticizing agents to meet UL and ASTM D 276-85, ASTM D 1475-85, 105° flash point per ASTM D 93-85.

9.9.10 **Plumbing stack, 4# lead flashing.**

9.9.10.1 Asphalt primer per ASTM D 3960-87, quick drying.

9.9.10.2 4 lb. sheet lead, ASTM B 29-79 (84).

9.9.10.3 Asphalt mastic, heavy fiberated mastic with penetrating oils and plasticizing agents to meet UL and ASTM D 276-85, ASTM D 1475-85, 105° flash point per ASTM D 93-85.

9.9.10.4 Install new 4 lb. lead plumbing stack flashing as in work order.

9.9.10.5 Prime flashing flange and flash the flange as specified by membrane manufacturer.

9.9.11 **Scupper, sheet steel, 24-gauge, ASTM A 526, match existing configuration.**

9.9.11.1 Steel, ASTM A 526, with 1.25 oz. per square feet galvanized coating, 24 gauge.

9.9.11.2 Solder, ASTM B 32-93, alloy grade Sn50A.

9.9.11.3 Neutralize flux after soldering.

9.9.11.4 Remove old scupper and install new scupper to match existing.

9.9.11.5 Flash per manufacturer's instruction.

9.9.12 **Remove existing walkway, built-up roofs.**

9.9.12.1 Furnish trucks, equipment and labor to remove walkways.

9.9.12.2 Do not damage roof.

9.9.12.3 Dispose of materials as in other specifications.

9.9.13 **Walkway, built-up roofs, desert tan fiberglass.**

9.9.13.1 Install modified cap sheet walkway that will neither curl nor shrink.

9.9.13.2 Attach as specified by manufacturer.

9.9.13.3 Install walkway sheet into a continuous and solid mopping of Type IV asphalt.

9.9.14 **Walkway, built up roofs, non-skid.**

9.9.14.1 Mark out location of the walkway with chalk line on a smooth, clean and dry roof.

9.9.14.2 If roof surface is old, oxidized, dirty (bird feathers, grime, etc.), prime work surface at the rate of one gallon of primer per 100-150 s/f. Allow primer to dry. (See primer spec elsewhere.)

9.9.14.3 Using hot asphalt or cold adhesive, apply a uniform and continuous application of asphalt adhesive for walk pads.

9.9.14.4 Walk pads shall be 3' x 5' x 3/8" and shall weigh about 32 pounds each, being made of asphaltic fiberglass, reinforced with non-skid ceramic granules for a final finish.

9.9.14.5 Install with one to three inches of space between pads.

9.9.15 **Walkway, single ply roof.**

9.9.15.1 Mark out location of the walkway with chalk line on a smooth, clean and dry roof.

9.9.15.2 If roof surface is old, oxidized, dirty, prime work surface at the rate of one gallon of prime per 100-150 s/f. Allow primer to dry. (See primer spec elsewhere.)

9.9.15.3 Install 3' x 5' non-asphaltic walk pads. Walk pads must have a non-skid surface.

9.9.15.4 Adhesives must not be asphaltic and must be compatible to the single ply membrane.

9.9.15.5 Allow one to three inches of space between pads.

9.9.15.6 For areas of high traffic, a 30" wide roll of chopped rubber particles and synthetic binders may be attached to the roof.

9.9.15.7 Rolled walkway may be attached with special tape approved by the manufacturer, with hot asphalt, or with a rubber-based adhesive approved by the manufacturer.

9.9.15.8 Membrane may also be used as a roof protection layer between HVAC wood sleepers, pipe supporting bracing, and other roof-top equipment that is not anchored to the decking.

9.9.16 **Roof ventilators.**

9.9.16.1 Install roof ventilators per roof membrane manufacturer's specification.

9.9.16.2 Vents shall be galvanized, 26 gauge, have no moving parts and shall be screened.

9.9.16.3 Vents shall be installed a minimum of 8" above roof surfaces to prevent leaks.

9.9.16.4 Vents shall match existing vents, if possible.

9.9.16.5 Vents shall comply with all codes.

9.9.17 **Roof ladder, steel, bolted to concrete, up to 20 feet, without cage.**

9.9.17.1 Fixed ladder with walk-thru handrails. Ladders are designed for applications where safe landing access is required. Ladders are one-piece welded assemblies for use in applications less than 20 feet in vertical height.

9.9.17.2 Side members are 1/4" x 2" x 2" steel angle with 3/4" corrugated steel round climbing rungs on 12" centers. Standoff mounting brackets are 7".

9.9.17.3 Walk-thru handrails extend 42" above landing surface. Mounting brackets included. Gray lacquer finish is standard. Safety cages are designed to OSHA specifications with flared bottom opening for easy entry.

9.9.17.4 Install roof access ladder where specified in contract.

9.9.17.5 All fastening, design, and height requirements to comply with local, state and federal codes for access ladders. In compliance with IBC, 2006 Edition, 1504.5 Edge securement for low-slope roofs.

9.9.17.6 Roof ladder, steel, bolted to concrete, 20 feet and up, with cage.

9.9.17.7 Fixed ladder with walk-thru handrails. Ladders are designed for applications where safe landing access is required. Ladders are one-piece welded assemblies for use in applications more than 20 feet in vertical height.

9.9.17.8 Side members are 1/4" x 2" x 2" steel angle with 3/4" corrugated steel round climbing rungs on 12" centers. Standoff mounting brackets are 7".

9.9.17.9 Walk-thru handrails extend 42" above landing surface. Mounting brackets included. Gray lacquer finish is standard. Safety cages are designed to OSHA specifications with flared bottom opening for easy entry.

9.9.17.10 Install roof access ladder where specified in contract.

9.9.17.11 All fastening, design, and height requirements to comply with local, state and federal codes for access ladders.

9.9.18 **Roof ladder, security ladder guard.**

9.9.18.1 Security ladder guard is 6' long and is mounted directly over the ladder climbing rungs to prevent unauthorized use. Ladder guard has a one-piece continuous hinge and a lockable hasp.

9.9.18.2 Mount ladder guard per manufacturer's instruction.

9.9.19 **Termination bar, aluminum, 1/4" x 1".**

9.9.19.1 1/4" x 1" extruded aluminum termination bar with caulking cup to meet ASTM B 222185A.

9.9.19.2 Fasteners to meet Federal Specifications FF-N-105B (3), Type II, Style 20, roofing nails; 6061-913, flat head, diamond point, round, barbed shank to wood curbing.

9.9.19.3 Lead anchors 1/4" x 1" diameter by specified length to masonry/concrete to meet ASTM B 29-79 (84).

9.9.19.4 Install termination bar to specified area per work order.

9.9.19.5 Fasten termination bar 8" on center.

9.9.20 **Pitch pocket, 24-gauge, GI, 6" x 6", with storm collar, hemmed to outside, soldered corners and seams.**

9.9.20.1 Prime inside of pitch pan and deck flange. Deck flanges shall have corners filled and soldered. Fill 3/4 of pan with 3000 psi, non-shrink grout and top with fibrated asphalt mastic, non-asbestos, with 9.3 lbs./gallon density.

9.9.20.2 Install pitch pocket and flash per membrane manufacturer.

9.9.20.3 Fasten storm collar and caulk with approved sealant.

9.9.21 **Pitch pocket, 24-gauge, GI, 8" x 8" and 12' x 12', with storm collar, hemmed to outside, soldered corners and seams.**

9.9.21.1 Prime inside of pitch pan and deck flange. Deck flanges shall have corners filled and soldered. Fill 3/4 of pan with 3000 psi, non-shrink grout and top with fibrated asphalt mastic, non-asbestos, with 9.3 lbs./gallon density.

9.9.21.2 Materials per SMACNA or NRCA specifications.

9.9.21.3 Install pitch pocket and flash per membrane manufacturer.

9.9.21.4 Fasten storm collar and caulk with approved sealant.

9.9.22 **Pitch pocket, resurface top only.**

9.9.22.1 Material needed, asphalt mastic.

9.9.22.2 Remove loose materials.

9.9.22.3 Fill pitch pocket with mastic, crown 1/2 to shed water, size 6" x 6".

9.9.23 **Expansion joint, butyl or neoprene bellows, galvanized flange.**

9.9.23.1 Install materials with fasteners as per work order.

9.9.24 **Expansion joint, CSPE reinforced.**

9.9.24.1 Install CSPE reinforced elastomeric membrane with manufacturer specified adhesive.

9.9.24.2 Flash as specified by manufacturer.

9.9.25 **Repair kit for dry repairs.**

9.9.25.1 One 3-gallon pail with safety label.

9.9.25.2 One roll reinforcing mesh, 6" by 100'.

9.9.25.3 One roofing knife.

9.9.25.4 One 3" paint brush.

9.9.25.5 One 2" margin trowel.

9.9.25.6 Two gallons of reinforced flashing mastic.

9.9.25.7 One 4" stiff bristle brush.

9.9.25.8 One-gallon roofing primer.

9.9.26 **Repair kit for wet repairs.**

9.9.26.1 One 3-gallon pail with safety label.

9.9.26.2 One 2" margin trowel.

9.9.26.3 Two gallons of wet patch, fiber reinforced mastic.

9.9.26.4 One 4" stiff bristle brush.

9.9.27 **Skylights.**

9.9.27.1 Curb mounted skylights will be installed with curbs a minimum of 8 inches above the finished roof.

9.9.27.2 Skylights will be installed per the instructions of the skylight manufacturer.

9.9.27.3 Special energy-efficient and light enhancing skylights may be offered.

9.9.27.4 Skylights will be in standard sizes and special sizes, as needed. Sizes will include 3' x 5', 4' x 4', and 4' x 8'.

9.9.27.5 All OSHA rules related to worker safety around roof openings will be carefully observed.

9.9.28 **Security/fall bars for skylights.**

9.9.28.1 Bars shall meet UBC, OSHA, state and federal requirements when skylights are installed.

9.9.28.2 Skylight security/fall bars will be installed per the instructions of the manufacturer.

9.9.28.3 Skylight security/fall bars will be in standard sizes and special sizes, as needed. Sizes will include 3' x 5', 4' x 4', and 4' x 8'.

9.9.28.4 All OSHA rules related to worker safety around roof openings will be carefully observed.

9.10 **Roof Services**

9.10.1 **Asbestos core testing.**

9.10.1.1 Asbestos core test size, 2" x 2".

9.10.1.2 Send to accredited lab to produce report on asbestos content.

9.10.1.3 Repair hole left by core sample.

9.10.2 **Core analysis, 14" x 14".**

9.10.2.1 Analysis and evaluation of 14" x 14" roof core. Specific information such as tensile strength, membrane type, bitumen type and bitumen softening point, number of plies, shall be provided to determine whether a roof should be restored or replaced.

9.10.2.2 Repair hole left by core sample.

9.10.3 **Non destructive roof scan, up to 50,000 square feet, full service.**

9.10.3.1 A.G.A. infrared scanning equipment for rooftop analysis.

9.10.3.2 Full service shall include daytime inspection of roof area to be scanned with daytime photos of roof conditions.

9.10.3.3 Nighttime infrared scan with painted lines of wet areas and verification of survey results using cores and moisture probes to verify infrared results.

9.10.3.4 A comprehensive report that includes outline drawing of building showing location of wet insulation, results of core analysis, roof condition report, energy loss estimate.

9.10.3.5 Same service may be offered on projects in excess of 50,000 s/f.

9.10.4 **Non destructive roof scan, up to 50,000 square feet, limited service.**

9.10.4.1 A.G.A. infrared scanning equipment for rooftop analysis.

9.10.4.2 Limited service shall include daytime inspection of roof area to be scanned with daytime photos of roof conditions.

9.10.4.3 Nighttime infrared scan with painted lines of wet areas and verification of survey results using cores and moisture probes to verify infrared results.

9.10.4.4 Does not include the comprehensive report.

9.10.4.5 Same service may be offered on projects in excess of 50,000 s/f.

9.10.5 **Roof inspection services.**

9.10.5.1 Daily full-time monitoring of roofing, caulking, decking and waterproofing projects at time of application to ensure successful completion of the project. Written reports verifying how work is progressing will be given to the owner.

9.10.5.2 Report shall include progress photos and plan showing area where work was performed, and amount of work completed that day.

9.10.6 **Field/shop drawings, up to 10,000 square feet.**

9.10.6.1 Roof drawing (scaled 1/8").

9.10.6.2 Sectional details.

9.10.6.3 Perimeter details (scaled 1 1/2" or 3/4").

9.10.7 **Field/shop drawings, 10,000-50,000 square feet.**

9.10.7.1 Roof drawing (scaled 1/8").

9.10.7.2 Sectional details.

9.10.7.3 Perimeter details (scaled 1 1/2" or 3/4").

9.10.8 **Field/shop drawings, over 50,000 square feet.**

9.10.8.1 Roof drawing (scaled 1/8").

9.10.8.2 Sectional details.

9.10.8.3 Perimeter details (scaled 1 1/2" or 3/4").

9.10.9 **Prime contractor's warranty, restoration, less than 10,000 square feet, minimum charge.**

9.10.9.1 Furnish 5-year manufacturer warranty.

9.10.9.2 Cover material failure.

9.10.9.3 Cover leak repair.

9.10.9.4 Cover contractor two years labor on workmanship.

9.10.9.5 Copy to owner on acceptance.

9.10.10 **Prime contractor's warranty, restoration, over 10,000 square feet, minimum charge.**

9.10.10.1 Furnish 5-year manufacturer warranty.

9.10.10.2 Cover material failure.

9.10.10.3 Cover leak repair.

9.10.10.4 Cover contractor two years labor on workmanship.

9.10.10.5 Copy to owner on acceptance.

9.10.11 **Prime contractor's warranty, reroof, total system, 10 year, less than 10,000 square feet, minimum charge.**

9.10.11.1 10-year material and labor.

9.10.11.2 Flashings up to termination.

9.10.11.3 Blister repairs over 4 square feet.

9.10.11.4 Contractor two-year material and labor.

9.10.11.5 Provide 2-year, 5-year, 7-year inspection of roof with written report of condition and based on specifications identified in 9.10.17.

9.10.11.6 Provide list of owner's maintenance items with warranty.

9.10.11.7 Provide additional cost for 15- and 20-year warranty after Tab 6.

9.10.12 **Prime contractor's warranty, reroof, total system, 10 year, more than 10,000 square feet, minimum charge.**

9.10.12.1 10-year material and labor.

9.10.12.2 Flashings up to termination.

9.10.12.3 Blister repairs over 4 square feet.

9.10.12.4 Contractor two-year material and labor.

9.10.12.5 Provide 2-year, 5-year, 7-year inspection of roof with written report of condition and based on specifications indicated in 9.10.17.

9.10.12.6 Provide list of owner's maintenance items with warranty.

9.10.12.7 Provide additional cost for 15- and 20-year warranty after Tab 6.

9.10.13 **Prime contractors per diem costs for work outside major population areas (over 100,000 population), where travel time exceeds 1 hour one way from contractor's yard.**

9.10.13.1 Per diem costs are based on one person (worker) per day, excluding travel. [For example, if an eight-person crew is contracted to work 10 days at a worksite outside the metropolitan area, a per diem of $40 would be $40 x 8 workers x 10 days, or $3,200.

9.10.13.2 Contractor/subcontractor may not charge per diem cost if contracted work can be completed within an eight (8) hour day.

9.10.13.3 Weather day's per diem.

9.10.13.3.1 On projects where overnight per diems are being charged, prime contractor shall be allowed to charge for crews per diem for days where crews were not allowed to work due to poor weather. If crews were allowed to work fewer than 3 hours in a 24hour day, per diem may be charged.

9.10.13.3.2 Poor weather days must be recorded and reported to the buyer each week. Any days not reported during a single week (Sunday through Saturday) will not be allowed.

9.10.13.3.3 Contractor shall not charge for weather days when days lost are fewer than one crew day per 200 squares.

9.10.13.3.4 In price quotation, indicate geographic areas, by county or region, where the per diem rate becomes effective. No per diem is allowed in major metropolitan counties.

9.10.14 **Prime contractors per diem/costs for asbestos abatement planning.**

9.10.14.1 All roofing abatement work shall be done in strict accordance with all applicable federal, state and local regulations, standards, codes, and ordinances that govern asbestos abatement.

9.10.14.2 The most recent addition of any relevant regulation, standard, codes, and ordinances shall be followed. Where there is conflict among the documents, the most stringent shall be used, unless such use, due to the conflict, puts the district at risk.

9.10.14.3 The prime contractor shall assume full responsibility and liability for any subcontractor's compliance with all applicable laws, especially pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying adjacent areas to the roofing site.

9.10.14.4 The prime contractor will provide the school district with a notarized statement, signed by an officer of the subcontractor, that contains the following information: 1) a record of any citations issued by federal, state, or local regulatory agencies relating to asbestos abatement activities, including projects, dates, and resolutions; 2) a list of any penalties incurred through non-compliance with asbestos abatement project specifications including liquidated damages, overruns in scheduled time limitations and resolutions; and 3) a list of any asbestos-related proceedings that are currently in progress. The school district shall have the right to request the prime contractor secure another subcontractor, if any asbestos-related problem was not resolved in a satisfactory manner.

9.10.14.5 The prime contractor shall present to the school district a list of specific requirements that the subcontractor agrees to follow, including a list of Occupational Safety and Health Administration (OSHA) Title 29 regulations and a list of Title 40 codes from the Asbestos Hazard Emergency Response Act (AHERA) and the National Emission Standard for Hazardous Air Pollutants (NESHAP) regulations.

9.10.14.6 The plan shall identify all abatement materials and equipment to be used in the roof repair or restoration project.

9.10.14.7 All necessary protective clothing, personal respirators, scaffolding, ladders, and other equipment shall be approved by the district prior to abatement. The plan shall identify when respirators must be used. A respirator must be used during removal and disposal activities. All OSHA rules for the use of respiratory protective equipment

must be followed. Workers with beards or unshaven faces will not be permitted to wear half-face respirators, as per OSHA, NIOSH and EPA standards.

9.10.14.8 Prior to the start of any removal activity that involves asbestos, the prime contractor and the school district shall approve a pre-construction checklist that provides detailed information about the scope of work, including the following: 1) how the work area will be prepared; 2) protective equipment and clothing to be used; 3) proof that all workers involved in asbestos removal are certified; 4) decontamination procedures for personnel, as needed; 5) abatement procedures to be used; 6) procedures for handling and disposing waste material, final decontamination and cleanup work; 7) job safety, bathroom and sanitary facilities, including on-site shower; 8) site security; 9) record-keeping needs for officials; and 10) hold harmless agreements to be signed by those involved.

9.10.14.9 All NESHAP and other regulation filing fees will be submitted to the appropriate agency at the time of notification or filing and are the responsibility of the Prime Contractor. The school district will reimburse the prime contractor upon proof of fee payment (photocopy of check or equivalent).

9.10.14.10 Prime contractor will provide copies of original training certificate and most recent refresher certificate for each employee assigned to work on any abatement. Prime contractor will be responsible for cross-referenced checking of subcontractor's certificated employees by picture I.D. (driver's license/photo bank card).

9.10.14.11 Since roof abatement does not confine workers in an enclosed work area, only those rules, regulations, and standards that are applicable to roof asbestos abatement will be enforced. However, the prime contractor must include in the written abatement plan all necessary protective measures and practices that minimize worker exposure while on the roof or while working with asbestos materials, including, but not limited to: 1) engineering controls; 2) work practices; 3) respirators; 4) hygiene facilities; 5) protective clothing; 6) decontamination procedures; 7) emergency procedures; and 8) waste disposal procedures. These items should be reflected in the pre-startup checklist.

9.10.14.12 Prime contractor will require any subcontractor to provide medical monitoring to any employee or agent (whether or not that agent is working for the subcontractor, the prime contractor, or the school district) exposed to asbestos in excess of background levels during any phase of the abatement process. All medical reports will be in full compliance with OSHA medical surveillance requirements.

9.10.14.13 The prime contractor shall coordinate with the school district to notify occupants near the work area who may be disrupted by the roof abatement prior to job commencement. Persons downwind from the roof abatement site will be moved to a safe location.

9.10.14.14 Any additional insurance or bonding costs associated with asbestos abatement will not be the responsibility of the school district. Such costs are a normal business expense of the prime contractor and will be covered in the bid response.

9.10.14.15 Prime contractor may base planning costs upon results of core testing and roof scans.

9.10.15 **Asbestos abatement activities, removal and disposal of waste**

9.10.15.1 If required by authorities, prime contractor will run baseline air samples and area samples prior to and during abatement, with printed results given to the school district.

9.10.15.2 Construction area will have the perimeter roped off with warning or caution tape, as required by OSHA. Asbestos warning signs in English and Spanish (or in the language of the Native American tribe if work is performed on a reservation) will be placed as required by law.

9.10.15.3 Any daily sign-in sheets required by law will be maintained at the worksite.

9.10.15.4 Workers will wear personal protective equipment at all times during abatement. An on-site shower shall be available for workers, unless the use of a double suit meets all legal requirements.

9.10.15.5 Prior to roof abatement, one layer of 6 mil polyethylene must be secured to the ground and walkways around the perimeter of the building. This layer must extend no less than six feet out from the building. No asbestos-containing materials may be removed from the roof until it is properly wrapped or contained.

9.10.15.6 No roofing material containing asbestos may be thrown from the roof to the ground or into a dumpster. A fully contained and lined chute, or a block and tackle system to gently lower materials to the ground, may be used.

9.10.15.7 All OSHA and NESHAP regulations pertaining to safety of workers and emissions must be followed.

9.10.15.8 After passing final visual and air tests, waste may be loaded, and job site turned over to workers scheduled to repair or restore the roof. Reestablishment of the work area shall occur only after cleanup procedures and air monitoring has been documented to the satisfaction of the school district. All polyethylene barriers shall be removed and disposed of as required by regulations. No debris shall be buried or burned on the property of the district.

9.10.15.9 All waste is to be hauled by a hauler with all required state and local licenses. No disposal- bagged materials may be transported on an open truck. All disposed materials must have the necessary labels and be contained in leak-proof 6 mil disposal bags or fiberboard drums.

9.10.15.10 Disposal must occur at a site authorized by the district and that has met all regulatory requirements. All dump site receipts, trip tickets, transportation manifests or other documentation of disposal shall be kept by the prime contractor with copies given to the district. The prime contractor shall provide the district with a complete record of the disposal process, including the names and addresses of the subcontractors, disposal site operator, and hauler. The location of the disposal site(s) and the estimated quantity of asbestos waste shall be included in this report.

9.10.16 **Asbestos site monitoring.**

9.10.16.1 Monitor, including air sample collection and testing.

9.10.17 **Annual or semi-annual roof housekeeping and inspection services**

9.10.17.1 Inspection includes, but is not limited to, the following: clean and properly dispose of all debris from the roof membrane, gutters and scuppers.

9.10.17.2 Repair tears, splits and breaks in membrane flashings with appropriate materials, loose cleats and clips re-secured, exposed fasteners resealed. Repair base flashings, curb flashings, equipment flashings, drains, drain sumps and scuppers and the roof membrane, as needed. Caulking of reglet as required sealing open areas and voids.

9.10.17.3 Dress up reflective coatings on flashings and new repair work.

9.10.17.4 Work provided annually or semi-annually on a mutually agreed schedule, priced per location per square footage.

9.10.18 **Leak investigation**

9.10.18.1 Two professional investigators will trace the source of any leak.

9.10.18.2 Repair leaking roof, if inspection determines minor repairs will stop the leak.

9.10.19 **Minor repair calls**

9.10.19.1 When damage or leaks have been discovered and local crews are unable or untrained in repair, the Contractor will dispatch a crew to repair the roof.

9.10.19.2 Repairs will be billed at the line item prices in this contract; minor repairs will be billed at an hourly rate if cost is less than the line item. Repair call charges will be above the line item prices.

9.10.20 **Difficult access or fall restriction surcharge**

9.10.20.1 In areas where roofs are not accessible through regular means and methods, a project surcharge may be allowed. Surcharges are allowed when men and equipment must be transported over one or more additional roof areas not being worked on or where fall protection is required in excess of warning lines.

9.10.20.2 Any surcharge costs will be determined up front and agreed upon between the buyer and the Contractor and included in the initial cost quotation and purchase order.

9.10.21 **Excessive hauling**

9.10.21.1 A hauling fee will be established when an appropriate landfill is more than 50 miles round trip. Hauling fees will be based on a per trip and per mile charge.

9.10.21.2 No hauling fees will be charged when landfills are fewer than 50 miles round trip.

9.10.21.3 Landfill charges for dumping, if any, will be determined prior to award of a contract. Only the actual fee charged may be billed to the buyer; receipts that clearly indicate the actual fee must be provided. Contractor is encouraged to pay any landfill costs and not pass the cost to the buyer.

9.10.21.4 Hauling and landfill costs must be determined prior to start of work and included in the quotation. Only actual costs may be invoiced. Any actual costs over the quotation will not be passed on to the buyer.

9.10.22 **Work in secured areas or compounds**

9.10.22.1 Secured areas (prisons, military bases, local or state parks, etc.) where access is restricted may require a surcharge on labor, materials, and equipment.

9.10.22.2 Any surcharge will be identified in the cost quotation.

9.11 **Additional and Occasional Services**

9.11.1 **Roofing supplies**

9.11.1.1 To permit agency members to purchase equipment and supplies for the roof installation, repair and/or replacement by the agency member's awarded contract installer, manufacturer will provide a complete published price list/catalog with all materials to be offered without services being provided.

9.11.1.2 To permit agency members to purchase equipment and supplies for the roof installation, repair and/or replacement by the agency member's awarded contract installer, manufacturer will provide a complete published price list/catalog will all materials to be offered without services being provided.

9.11.1.3 The Offeror's AEPA bid percentage discount off price list will be applied to obtain AEPA price for these items.

9.11.2 **HVAC, plumbing and electrical contractors.**

9.11.2.1 For the removal and replacement of HVAC, utility lines, minor plumbing and electrical work associated with roof installation and repair projects, the prime contractor may hire a properly licensed contractor for such work.

9.11.2.2 When possible, if there is a contractor who currently holds a contract with the individual AEPA Member Agency/client available, they will be used for such work. The agency/client will issue a purchase order to the contractor for the work. The agency's/client's contractor will cooperate with the roofing contractor to accomplish the work. This transaction will be between the agency/client and their contractor.

9.11.2.3 When a non-agency contractor is used, the prime contractor will acquire a subcontractor(s) to perform and complete the additional work required. Depending on type of work and the projects requirements, the contractor will utilize the R.S. Means and/or the alternative costing methods to bill the agency/client. The prime contractor must provide agency/client a copy of the invoice from the HVAC, plumbing, or electrical contractor hired for the work.

9.11.2.4 In the Offeror's response, it shall submit percentages for: R.S. Means discount, alternative costing overhead and profit, alternative discount off retail price.

9.11.3 **Deducts and add-ons for in lieu products**

9.11.3.1 When a roof repair is for a temporary building (less than 10 years expected usage), the materials used for a 15- or 20-year lifecycle may not always be wise or cost effective. If an upgrade would increase the life expectancy of a roof from 25 to 30 or more years, the upgrade may be identified.

9.11.3.2 Prime contractor may identify deducts and ad-ons for fiberboard, shingles, slate, tile, nailed base, mopped roofing, foam, fiberglass, felts, venting base sheets, steel identified by gauge, and other roof accessories.

9.11.3.3 All deducts must be identified after Tab 6 and be identified by line item number.

9.11.3.4 In like manner, any additional upgrades that would increase the lifecycle and reduce the lifecycle costs may be identified after Tab 6.

9.11.4 **Special rented equipment.**

9.11.4.1 Prime contractor will identify and price the rental cost for any equipment necessary for a specific job. This equipment includes, but is not limited to, cranes, fork trucks, hoists, and other similar equipment.

9.11.4.2 The AEPA price for these items will be calculated using the R.S. Means and/or the alternative costing methods.

9.11.5 **Cold and bad weather storage and handling**

9.11.5.1 Store all materials on platforms, raised off the ground or roof deck and covered with breathable waterproof coverings that have been properly secured.

9.11.5.2 Roofing bitumens must always be protected from the weather. Moisture, dirt, snow and ice must be removed from roofing bitumens before they are heated.

9.11.5.3 Store temperature sensitive products in a dry, heated area. Water-based cements, coating materials, caulking, etc. must be protected to prevent freezing. Membrane rolls become less flexible and are susceptible to cracking at low temperatures.

9.11.5.4 Cold and bad weather application standards

9.11.5.4.1 Use cold or winter grade materials as recommended by the manufacturer (indicate cost of materials in proper sections).

9.11.5.4.2 Prepare materials for application per manufacturer's instructions. Some sheets/felts require relax periods that may be longer in cooler temperatures.

9.11.5.4.3 At the point of application of roofing felt, the bitumen should be applied at the proper equiviscous temperature (EVT). Apply felts close to the mop to prevent premature cooling of the bitumen.

9.11.5.4.4 Properly insulate all bitumen handling equipment (pipes, luggers, dispensers and mop buckets). Keep kettle as close as possible to the point of application of the roofing system.

9.11.5.4.5 If proper application temperatures cannot be attained or maintained, the roof system application should be sealed and shut down until weather permits.

9.11.5.4.6 Cold process adhesives may require heating prior to application in cool weather. Follow manufacturer's instruction to use in-line heat exchangers.

9.11.5.5 Cold and bad weather safety.

9.11.5.5.1 Alert roofing applicators to possible safety hazards due to bulky clothing and slippery surfaces.

9.11.5.5.2 Do not store materials in high piles on the deck avoiding wind and snow dams. Live snow loads may cause deck deflection due to heavy loads.

9.11.5.5.3 Maintain good housekeeping on roof deck at all times; debris may be hidden by snow and may result in trip hazards.

9.11.5.5.4 Do not use open flames to heat or thaw adhesives.

9.11.5.6 Hourly service rates for providing additional and/or miscellaneous services on a time and materials basis as requested. If services are provided by Contractor's staff, the rate bid will be utilized plus the individual AEPA state multiplier. If services are to be

provided by independent firms/subcontractors, then the alternative pricing method will be utilized as identified in 9.11.2.3 above.

9.11.6 **Professional Services**

9.11.6.1 The fee for professional services may include, but is not limited to, investigation, design, engineering, review and stamping of drawings, specifications writing and review, and structural reports, as may be required by local jurisdictions.

9.11.6.2 Structural analysis and engineering services

9.11.6.2.1 Must be highly qualified and experienced in working with the type of building structure and roofing system involved.

9.11.6.2.2 If required by the state in which the project is located, be registered and hold the appropriate license(s).

9.11.6.2.3 If an owner suspects a structural deficiency as it relates to the building envelope including roofs, walls, trusses, joists, etc., a licensed architect, engineer or roof consultant may be required.

9.11.6.2.4 The fee for such a review, including design and sealing of drawings, specifications and structural reports, will be as required in the local jurisdiction.

9.11.6.2.5 Minimum hourly and daily costs for registered and licensed architects, roof consultants or engineers will be provided.

9.11.6.2.6 Weather day's per Diem

9.11.6.2.7 On projects where overnight per diems are being charged, prime contractor shall be allowed to charge for crews per diem for days where crews were not allowed to work due to poor weather. If crews were allowed to work fewer than 3 hours in a 24hour day, per diem may be charged.

9.11.6.2.8 Poor weather days must be recorded and reported to the buyer each week. Any days not reported during a single week (Sunday through Saturday) will not be allowed.

9.11.6.2.9 Contractor shall not charge for weather days when days lost are fewer than one crew day per 200 squares.

9.11.6.3 Architect/professional design services

9.11.6.3.1 Must be highly qualified and experienced in designing and developing roofing structures and systems that may be applicable for the building types and environmental conditions found within the project site.

9.11.6.3.2 If required by the state in which the project is located, be registered and hold the appropriate license(s).

9.11.6.4 Roofing Consultant

9.11.6.4.1 Must be highly qualified and possess the training, certification, background and experience required by the roofing industry and/or other associated organizations that are recognized by the public, commercial and industry as meeting and exceeding national/international standards.

9.11.6.4.2 If required by individual states, possess the required educational background, certifications and endorsements.

9.11.6.5 Labor Rate for Roofer

9.11.6.5.1 Must possess the background, experience and be factory trained/certified/authorized to install, maintain and/or make repairs on the type of roofing system found in the individual project.

9.11.6.5.2 If required by the state in which the project is located, hold the appropriate tradesman's license(s).

10. General Cost Factors

10.1 Mileage

10.1.1 Mileage may be charged if the project site is greater than sixty (60) miles one-way from the contractor's/subcontractor's yard/home location.

10.2 **Payment Bonds and Performance Bonds and bonding capacity**

10.2.1 The associated cost of providing payment and performance bonds when required for an individual project and in accordance with the individual state's requirements. (Bonding rate/percent of project.)

10.2.2 Total amount of bonding capacity for all projects.

10.3 **Offeror support for AEPA pricing – The difference between what the Offeror has proposed to AEPA Members and what it offers to other procurement agencies.**

11. Submittal and Substantiating Documentation

11.1 Offeror must, through its response, clearly identify the type, kind, and level of products offered with their intended applications found within the AEPA Member states that have indicated an interest to participate. The response shall include:

11.1.1 The products offered with manufacturer's name(s).

11.1.2 If Offeror is not the roofing systems'/products' manufacturer, for each manufacturer, provide the required documentation to demonstrate their relationship with, awareness of and willingness, ability and capacity to perform as a party to this solicitation and indicating the Offeror is a manufacturer's authorized and certified distributor, installer and warranty work provider.

11.1.3 The various kinds, types, levels of products offered from each.

11.1.4 Submit for each of the major product components specs and SDS sheets.

11.1.5 For each of the roofing systems/major components in which the Offeror is not the manufacturer, provide the manufacturers/supplier's name, component and the composition/specs of the component(s).

11.1.6 Submit certified copies of independent (third-party) laboratory reports on ASTM tests on the roofing systems/major components/products offered.

11.1.7 Submit samples of the roofing systems/protective coatings manufacturers' warranty to be provided to the owner/client covering defects in materials, workmanship, excessive wear, leaks and any other feature which is not deemed ordinary wear for the type of system/product and during the systems'/products' lifecycle or for a period of fifteen/twenty (15/20) years from the date of Substantial Completion, and the method utilized by the manufacturer to verify that their onsite representative has inspected the installation and that the work conforms to the manufacturer's specifications and requirements for the warranty to be issued.

11.1.7.1 Provide the necessary documentation and evidence that the two (2) year mandatory labor, supplies and warranty can be provided and delivered.

11.1.7.2 Provide documentation demonstrating the roofing system's manufacturer(s) warranties are supported by an insurance policy and/or performance bond for the full fifteen/twenty (15/20) year period.

11.1.7.3 Provide a sample of the distributors'/installers'/subcontractors' (providers') warranty required by the Offeror to ensure AEPA, its members and their clients that the provider/contractor will cover defects in the work performed and installation workmanship, and further warrant that the installation was done in accordance with both the manufacturer's recommendations and any written directives of the manufacturer's on-site representative.

11.2 Submit detailed information and documentation describing the network and/or distribution system to be utilized to provide all aspects of the scope of work as defined within this solicitation (market, consulting, delivery, install, inspections, warranty work, maintenance and repair, etc.).

11.2.1 Provide complete information identifying the individual/distributor/installer or any subcontractor that will be utilized to work with and perform the services proposed to be offered in response to this solicitation. Please include the AEPA state(s)

for which they will be responsible and from where they will be dispatched (home location).

11.2.2 Submit documentation and evidence that the products proposed, and services offered in response to this solicitation have been delivered, installed and supported in all the AEPA member states that have indicated an interest in participating in this AEPA contract, if approved.

11.2.2.1 For each of the states indicating an interest provided in Part C of this solicitation, list one (1) project performed, which was completed within the last year, one project within the last two (2) years and one project within the last three (3) years, for a total of three projects per state. Provide the following for each:

11.2.2.1.1 The general scope of work for each project, project cost, and the type of roofing or protective coating system utilized.

11.2.2.1.2 The manufacturer's product used for each project listed.

11.2.2.1.3 The public institution's/agency's name, address, phone number, contact person's name and title for each project.

11.2.3 Provide a narrative of your company's policies, procedures and strategies to ensure quality control and response to concerns before, during and after the project. Indicate what follow- up, review and oversight process your management team has in place to ensure customer satisfaction.

12. Cost Submittal and Considerations

12.1 The Offeror must provide a complete listing of all products and services that it is proposing to offer under this solicitation. All products and services pricing must be determined by one of pricing methods defined below.

12.1.1 Price sheets and/or catalogs – For those products and services that are to be priced using a manufacturer's published price list or product catalog, provide complete price list and/or catalogs that include product number, product description, unit of measure, the item's price and what that price includes (delivery, installation, etc.). The Offeror will indicate within their response the amount of discount to be applied to all items offered to AEPA and the multiplier/factor that is to be applied to arrive at each of the individual AEPA state agency's price. Within the terms of this IFB, different manufacturers/products can have different AEPA discounts if the discounts are clearly stated within the Offeror's response. If a price list or MSRP is not available, then the Offeror must utilize one of the other established pricing methodologies. **Note: it is AEPA's intention that this pricing methodology will be the primary method for pricing projects covered by this solicitation.**

12.1.2 Individual state multiplier/factor - AEPA understands the basic cost of the products/services listed on a published price list indicates the cost of obtaining, manufacturing, and preparing the products/services to ship to the project site. Due to the cooperative nature of this solicitation (opportunity of 29 states) and the potential volume, the Offeror will offer a discount on this price to AEPA as a whole. It is also understood that the cost incurred by the AEPA Offeror to deliver, store, and install the product/service to an individual project site will differ depending on the AEPA state in which the project site is located and the distance from the Offeror's/Provider's home location. Therefore, for each of the AEPA states listed herein, provide your multiplier/factor to be applied to the base AEPA price after the AEPA discount has been applied to the published price list to arrive at the individual AEPA state price. Example: If the published price on the published price list is $1,000 and the AEPA discount is twenty percent (20%), the AEPA price would be $1,000 x .80 (100%-20%=80%) = $800. If the Offeror bid a state multiplier/factor of 1.02%, to arrive at the AEPA state agency's price would be ($800 x 1.02) = $816.

12.1.3 R.S. MEANS costing method - The R.S. Means Company has moved from a published CD Rom and/or books to an online version covering the areas specified in the General Terms and Conditions of this IFB. The current online version will be the basis for all quotes and proposals based on R.S. Means. **Note: It is AEPA's intention that this methodology be utilized only if the products/services required for the project are not covered by the Offeror's published list.**

12.1.3.1 For individual construction cost, items within the R.S. Means cost-book (including labor, overhead and profit) will be charged to the owner/client. Please note that costs relating to non-construction items/assemblies (General Condition items) such as season of the year; home office costs; insurance; project management and supervision; office and storage trailers; pickup trucks, mileage, per diem, transportation/delivery; safety equipment; weather conditions; etc., must be included and will not be allowed as part of the Contractor's R.S. Means price quote/proposal, because these items are covered either by the Offeror's published price list and/or their identified individual AEPA state multiplier/factor.

12.1.3.2 AEPA has also found from past experience that the R.S. Means costs, depending on the individual Offeror, may provide/allow more or less compensation then is required for the Offeror to cover its actual costs. Therefore, AEPA has established an R.S. Means multiplier/factor that the Offeror bids to adjust the R.S. Means costs so that they are in line with what is needed to meet its costs. This R.S. Means multiplier/factor is applied to the R.S. Means cost proposal to achieve the AEPA cost for the items. A bid R.S. Means multiplier/factor of 92% indicates that the Offeror will charge the Means **total item cost** times .92 as the billable amount. A bid multiplier/factor of 102% indicates that the Offeror will charge the R.S. Means Total Cost times 1.02 as the billable amount. Note the following:

12.1.3.3 When using the R.S. Means assembly cost items, the Contractor must for each individual cost item/assembly indicate and document any of the R.S. Means special factors that are applicable, including factors affecting cost, quality of materials, productivity of labor force, size of project and location. These items must be clearly stated and documented as part of the Contractor's cost proposal. The owner/client reserves the right to accept or reject any of the items that it determines to be non-applicable.

12.1.3.4 No R.S. Means (General Conditions Items) such as contract management/supervision, home office costs, travel, per diem, pickup trucks, office trailers, storage facilities, etc., are to be included in a R.S. Means cost proposal unless it has been requested and approved by the owner/client.

12.1.3.5 Any costs associated with permits, state gross receipts and tribal taxes, performance and payment bond costs and other applicable reimbursable costs approved in advance by the owner/client will appear as separate line items on the Contractor's quote/cost proposal.

12.1.3.6 The Contractor's R.S. Means bid factor/multiplier may be adjusted on the Contractor's contract anniversary date in accordance with the price adjustment terms and conditions of this solicitation. Such requests will be considered and evaluated by comparing the request with the escalation/de-escalation of the marketplace as measured by the Construction Cost Index (CCI) published in the ENR (formerly known as Engineering News and Record).

12.1.3.7 Due to the R.S. Means cost taking into consideration the location of the project the Offeror/Contractor will not be allowed to apply the individual state multiplier/factor to this cost.

12.1.4 Alternative Costing Method - If there are products and/or services required for a project covered by this solicitation that are not covered by the Offeror's published price lists and/or R.S. Means, then the cost of these items will be calculated by utilizing the

alternative costing methodology. The items price will be obtained by issuing, receiving and evaluating three (3) written quotes which shall be submitted in advance and approved by the owner/client prior to being included into any quote/cost proposal and/or final contract documents. The owner/client reserves the right to accept or reject any quote or proposal including such items and may obtain these items through other procurement means (other existing contracts). The AEPA price will be determined by utilizing two percentages. The Offeror will submit bids for two percentages: the alternative method overhead and profit and the alternative method percentage of AEPA's discount to be applied to the items alternative method's retail price.

12.1.4.1 Based on the most advantageous and cost-effective quote received by the Contractor, the Contractor will apply its normal and customary overhead and profit percentages to the total cost submitted by the subcontractor and add that amount to obtain the normal and customary retail price. (Item cost multiplied by percent for overhead/profit equals amount of profit and overhead to be added to item cost equals retail price.)

12.1.4.2 Taking the normal and customary retail price as established in item 12.1.4.1 above, the Contractor will apply the AEPA's alternative method's discount percentage bid and subtract this amount from the normal and customary retail price to obtain the AEPA price (item retail price multiplied by percent of discount equals amount of discount to be subtracted to obtain AEPA price).

12.1.4.3 Due to the way the alternative method of costing is calculated, the Offeror/Contractor will not be allowed to apply the individual state multiplier/factor.

12.1.5 Sole Source - If products or services are required as part of the performance under this contract that can only be obtained and/or manufactured from a single source and fall under the sole source provision that is found within most states procurement codes, the Contractor must provide the owner with the necessary documentation to substantiate a sole source justification. To calculate the AEPA price for sole source items, the Offeror/Contractor shall utilize the same calculations identified in 11.1.4.1 through 11.4.1.2.

12.2 The cost evaluation for this solicitation will be based on a point system, with points being awarded for being low to high bidder for each cost evaluation item that is identified within the bid's cost evaluation submittal. If an Offeror leaves out/fails to provide a bid for an individual item, AEPA will allot zero (0) points to that item, and if awarded a contract, that individual item cannot be used in providing products or services. The low bidder will receive the full point value and all other bidders will receive points calculated (Lowest Bid / Other Bid) x point value.

12.2.1 If there is an item(s) within the cost submittal that the Offeror intends to provide at **NO COST** and/or the cost is included as part of another item, the Offeror must indicate **NO COST** in the appropriate column.

12.2.2 As noted within this solicitation, AEPA prefers to award a contract to a vendor who can provide a complete and comprehensive turn-key solution. Also, it is noted that AEPA understands that there may be national manufacturers/distributors who specialize in a particular and/or specific (single) type of roofing/protective coating system and, based on their response submitted and comparing the other systems offered within the same type of system, AEPA reserves the right to make a multiple award to a respondent who offers a particular/specific (single) type of system/product as long as:

12.2.2.1 The respondent is determined to be a responsive bidder.

12.2.2.2 It is determined to be advantageous and in the best interest of the AEPA Member State Agencies and their clients.

12.2.2.3 By making an award, it will allow the individual AEPA Members' facility owner/clients greater options and a better opportunity to meet their individual facilities' needs and requirements.

13. Part F - Pricing Workbook

Pricing shall be completed on the provided pricing sheets (Microsoft Excel Workbook) with the individual tabs to be completed as follows:

i. F.1 Base Bid Pricing (Required)
ii. F.2 State Multiplier & Labor Rates (Required)
iii. F.3 Volume Discounts (Optional)
iv. F.4 Project Quote (Required)
v. F.5 Project Quote (Required)

Bid pricing will be evaluated on a combination of items from both the Base Bid Pricing and State Multiplier pricing submittal. AEPA will also include as part of the evaluation process a hypothetical specified project on a site ready for installation at a specific location. Bidder must respond with pricing. This exercise will be used to compare costs between bid responses.

14. Evaluation

The AEPA Committee for this category will evaluate bid responses based on the entire response, and according to the criteria detailed in Part A for AEPA's definition of Responsive and Responsible bids. A recommendation may be made to recommend a single response or to recommend multiple bidders based on differentiation of product or service between bidders. AEPA will vote as a whole to accept or not accept a committee's recommendation. Once accepted, each recommended bid response will go to the individual states for contract approval. Please note, pricing evaluation may include other considerations, including the total cost of the acquisition and whether the Proposer's offering represents the best value. The evaluation committee may consider such factors as life-cycle costs, the total cost of ownership, quality, and the suitability of an offering in meeting AEPA members' needs.

Evaluation Criteria
Cost Evaluation
Complete Response to Bid
Conformance to Bid Terms and Conditions
Pricing Equal to or Better Than That Offered to Individual Entities or Cooperatives With Equal or Lesser Volume
Quality and Suitability of products offered
Marketing plan
Financial Viability
Demonstrated Track Record of Performance in the public marketplace
Value Added attributes
Commitment to lead with the AEPA contract

Invitation for Bid
AEPA IFB #021-D
Roofing and Building Envelope Services

Part C – Member Agency (State) Terms and Conditions

Table of Contents

1. Member Agency (State) Terms and Conditions

A single IFB is being published and distributed on behalf of the Member Agencies in many states. Differences in contract implementation and operation will exist between the Member Agencies. Each state may have special laws relating to this procurement that must be adhered to in addition to the previously stated constraints. *When Member Agency/State-Specific Terms and Conditions differ from the General Terms and Conditions, the Member Agency/State-Specific Terms and Conditions will prevail.*

2. Common Terms and Conditions

Active Promotion of Contract: Agencies require that the Vendor Partner take ownership and actively promote the contract in cooperation with the AEPA Member Agency to all of the Agencies' qualified Participating Entities.

Sales to Participating Entities: AEPA Member Agencies require that all awarded Vendor Partners offer the Member Agency contract opportunity to all qualified Participating Entities of the cooperative.

Legal Obligations: All Vendor Partners shall comply with all applicable Federal, State, and Local Laws, Codes, and Regulations while fulfilling the contract. It is the Bidder's responsibility to be aware of and comply with all state and local laws governing this procurement. Applicable laws, codes, and regulations (etc.) must be followed even if not specifically identified herein.

Administrative Fees: AEPA Member Agencies charge Vendor Partners an administrative fee (a percentage of sales in their respective state or states that they extend the AEPA pricing to). Administrative Fees are generally paid to each Member Agency quarterly. Additional details of how these fees are charged may be found under each state's Terms and Conditions.
A summary of each State's Administrative Fee, any special terms and conditions, and special ordering process requirements are listed here for the convenience of the Bidders.

3. Member Agency General Overview Summary

	General			Ordering Process			Construction Products and Services									Potential Customers						
AEPA Member Agency State	Administrative Fee	Bid Security Required on bid due date	Special Reporting Requirements	Standard Ordering Process	Electronic Ordering	Special Ordering Process	Davis Bacon and State Wage Rates	Payment & Performance Bonds Required	Contractor's Licensing Required	Permits and/or Registration Required	Construction Project Cost Limitations	Participate in Construction Services	Participate in Construction Products Only	Products are taxable	Service is Taxable	K-••12 Education	Higher Ed.	Private Schools	Non-••Profits	Federal Agencies	State Agencies	Cities & Counties
CA	2%	N	N	Y	Y	N	-	-	-	-	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
CO	2%	N	N	Y	N	N	N	N	N	N	N	Y	Y	N	N	Y	Y	Y	Y	Y	N	Y
CT	2%	N	N	Y	Y	N	Y	N	Y	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y
FL	2%	N	N	Y	Y	N	Y	N	Y	Y	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y
GA	2%	N	N	Y	Y	N	Y	N	Y	Y	N	Y	Y	N	N	Y	Y	Y	N	N	N	N
IA	2%	N	Y	Y	Y	N		**			Y	Lim	Lim	**		Y	Y	Y	N	Y	Y	Y
IL	2%	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	N	Y	Y
IN	Var	N	N	N	N	Y	-	-	-	-	-	-	-	-	-	Y	Y	Y	Y	Y	Y	Y
KS	2%	N	n	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y
KY	2%	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
MA	2%	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y
MI	2%	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	TBD	Y	Y
MN	2%	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y/N*	N	Y	Y	Y	Y	Y	Y	Y
MO	2%	N	Y	Y	Y	N	Y	N	N	Y	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y
MT	2%	Y	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y
NE	2%	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	N	Y	Y
NJ	2%	N	N	Y	Y	N	Y	Y	Y	Y	Y	N	Y	N	N	Y	Y	Y	Y	N	N	Y
NM	2%	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
ND	2%	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y/N*	N	Y	Y	Y	Y	Y	Y	Y
OH	2%	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y
OR	2%	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y
PA	2%	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y
SC	2%	N	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	Y	Y	Y	Y	N	Y	Y
TX	2%	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y
VA	2%	N	N	Y	Y	Y	N	N	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y
WA	2%	N	Y	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y
WV	2%	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
WI	2%	N	N	Y	Y	N	Y	Y	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
WY	2%	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y	Y

4. State Specific Terms and Conditions

1. California, Monterey County Office of Education dba CalSave

1) Governing Law and Venue

The laws of the State of California govern the Contract and prevail in the interpretation and administration of the Contract. California-specific Terms and Conditions prevail over any General Terms and Conditions. Each provision of law and clause required by law to be included in the Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though it were included. If through mistake or otherwise any such provision is not included, then upon application of either party the Contract shall be physically amended to make such inclusion or correction.

The venue for any litigation arising out of or related to the Contract shall be with either the Superior Court in and for the County of Monterey, State of California or the Federal District Court for the Northern District of California, San Jose Division.

2. Authority

For California, this request for bids is issued under the authority of the elected Monterey County Superintendent of Schools, who administers the Monterey County Office of Education (MCOE), located at 901 Blanco Circle, Salinas California, 93912. In this document, MCOE may be referred to as Agency, being distinct from other parties who may use this contract who are hereinafter referred to as Local Education Agencies (LEAs), regardless of their hierarchy or their political and organizational status as schools or municipalities.

3. CalSave and CalBuy, Administration, and Agent

Contracts awarded and Awarded Contractors/Vendors will automatically be part of the CalSave and CalBuy programs, and by bidding a Vendor must agree to participate. CalSave is cooperative purchasing program founded by the Monterey County Office of Education and administered by the Epylon Corporation under a contract with MCOE. MCOE is the lead agency for all Contracts, and the Monterey County Superintendent of Schools is the authority for the solicitation, evaluation, and award of all contracts. Epylon serves as MCOE's agent, but only the Monterey County Superintendent of Schools has the authority to award contracts. CalSave may also do business as CalBuy in certain jurisdictions. Correspondence and communication related to the contract award or administration of the program should be directed to Epylon, 630 San Ramon Valley Blvd., Suite 210, Danville, CA 94526.

MCOE reserves the right to change agents or to change the contact name of existing Agent's personnel administering the contract. If Agent or Agent's personnel change, Awarded Contractors/Vendors will be notified with new instructions.

4. Transaction Fees

Transaction Fees are the funding source for the operation of the self-supporting CalSave cooperative purchasing program. Awarded Contractors/Vendors shall be required to pay a Transaction Fee for all purchases by LEAs and other eligible entities made through the awarded Contract. For the purpose of this bid through Monterey County Office of Education and all Contracts awarded using this document, the Transaction Fee shall be 2 percent of Net Sales, which means gross sales less returns and cancelled orders within 30 days, shipping and sales and other taxes (excluding taxes based on net income). Transaction Fees will not be charged to or paid by the buyers themselves. Neither Awarded Contractor/Vendor nor its designated authorized reseller(s) shall itemize any additional amount corresponding to the Transaction Fees in the awarded Contract prices. This Transaction Fee applies to all orders, regardless of the method used to submit the order, or the quantity or dollar amount of the order.

Epylon will collect the full Transaction Fee on behalf of the CalSave and CalBuy programs, unless otherwise advised by Epylon. The Contractor/Vendor will make all participation fee payments within two weeks after sending the quarterly report. Checks are to be made payable to the Epylon Corporation and sent to 630 San Ramon Valley Blvd., Suite 210, Danville, CA 94526.

5. Non-Conforming Jurisdictions

Notwithstanding Section 4 (immediately above) no Transaction Fee is authorized to be charged to Awarded Contractors/Vendors for sales within any jurisdiction where prohibited by law or local- government policy. Instead, the cost of products, services, licenses, and goods sold under this contract in such jurisdictions shall be the same as for all school districts in all other counties of California. However, any LEA using this contract where Section 4 fees are not permitted shall be required to

pay a 2 percent fee for use of the contract, imposed by MCOE on the authority of Public Contract Code Section 20118 and 20652, which allows MCOE to charge reasonable costs to the public corporation or agency for furnishing the services incidental to the purchase of items under contract.

6. CMAS Conversion

If an Awarded Vendor uses an MCOE or another AEPA-affiliated contract for the purpose of obtaining a separate CMAS (California Multiple Awards Schedule) contract from the State of California, the Awarded Vendor is responsible for paying both the CMAS fee and MCOE's 2 percent transaction fee for all orders submitted under the authority of the CMAS program. In exchange for this fee, the Vendor is given a license to use and duplicate MCOE/AEPA terms and conditions for the purpose of applying for a CMAS contract. Also, CalSave or CalBuy will post pricing allowing prospective buyers to check for pricing that is compliant with the MCOE and CMAS contract. Vendor must comply with MCOE's quarterly reporting requirements. Public records of sales through CMAS will be used to verify quarterly reports and sales made through the CMAS program.

7. Reports

The Contractor/Vendor will compile a quarterly report listing each purchase made by participating Agencies and persons under this contract, and send them by the 15th of April, July, October, and January to Racquel Landolf with the e-mail address of rlandolf@epylon.com. These reports shall be in Microsoft Excel format and shall have file names that identify the contractor/Vendor and the month being reported. The file at a minimum shall include the fields listed below and shall allow for sorting on any of these fields:

- Date of Order
- Name of Participating Agency (LEA)
- Description of Item Purchased
- Manufacturer's SKU Number
- Quantity
- Contract Unit Price
- Extended Price
- List Price Before AEPA Discount

8. Length of Term

The term of the agreement shall commence on the date of the award and continue as stipulated in General Terms and Conditions, unless terminated, canceled, or extended. Contract may be terminated by MCOE if LEAs have not used the contract in any 12-month period, or if orders from participating LEAs do not total $10,000 in any 12-month period. California statutory term limits and extensions shall apply. In no case will the Contract be in force for more than three years at one time.

9. Marketing and Advertising under this Agreement

Vendor will actively promote the use of this contract by LEAs in California. Vendor must comply with the marketing plan offered as part of its bid submission. Unless other arrangements are made with the CalSave administrator, Vendor is also required to perform the following:

- Vendor will include the approved CalSave logo, web address, and toll-free number in all print electronic mail and other advertising and promotion intended for release to California K-12 schools, excluding national marketing releases.
- The CalSave logo and associated CalSave information shall be of a clearly readable size and in appropriate proportion to other elements in the printed material.
- Vendor agrees to provide CalSave with a copy or proof sheet of the advertisement or promotion material. Vendor will provide CalSave with date of release and name of publication, journal, etc.
- Vendor shall place a supplied CalSave Vendor sign on booths, tables, etc. of any or all exhibits for which the Vendor displays/participates at California tradeshows, conventions, and the like. Vendor will supply in advance scheduled exhibit dates. Vendor agrees to make available at the exhibit CalSave supplied brochures or other promotion materials.
- Vendor agrees to insert the approved CalSave logo, web address, and toll-free number on the Vendor's web site promoting or a specific CalSave landing page and providing a link to the CalSave website.
- Vendor will supply product catalog information, product description, pricing, etc., in a spreadsheet format as specified by CalSave for inclusion on the CalSave website.

- Vendor agrees to cooperate in developing appropriate website content to promote its products, services, and their advantages to school districts.
- Requested materials will be submitted to CalSave within 30 days.

10. Conformance to Public Contract Code 20111

An award by the Monterey County Superintendent of Schools under this solicitation will be for the purchase of equipment, materials, supplies, services, or repairs to be furnished, sold, or leased in accordance with Public Contract Code 20111 and 20650. Awards shall include allowance for installation and assembly services incidental and necessary to the use of the equipment, materials, supplies, and repairs purchased or leased.

11. Conformance to Public Contract Code 20118 and 20652

All public agencies (LEAs) are authorized by law to purchase off a contract awarded by an agency that has itself gone to bid, including all K-12 schools districts, college districts, special community districts and JPAs serving education, pursuant to Public Contract Code Sections 20118 and 20652. Using these statutes, the Monterey County Office of Education hereby declares its intent and authorization to make all contracts awarded under this contract "piggybackable" by other agencies in the state. The Agency waives any right to receive payment from other California agencies making purchases off the awarded contracts and those agencies will make payment directly to the vendors. Any legislative changes to Public Contract Codes 20118 and 20652 during the term of the contract(s) with Award Vendor(s) shall apply to the contract(s) immediately when such changes become law.

12. Additional Piggyback and Standard School Supply and Equipment Authority

The Monterey County Office of Education declares that items, materials, personal property, equipment, and licenses under Contract as a result of this Invitation to Bid will qualify as items to be included within its Standard School Supply and Equipment List. Because many County Offices of Education have banded together to create both the EdBuy and the CalSave programs for the purpose of collectively creating both a standard School Supply & Equipment List and cooperative contracts, the items solicited and awarded through this bid may also constitute a portion of an official Standard School Supply and Equipment List for other participating County Offices of Education and County Superintendents of Schools. Purchases by other County Offices of Education and LEAs may be made, not only in accordance with Public Contract Code 20118 and 20652, but also in accordance with Education Code 38110 and 38112 dealing with cooperatives and Standard School Supplies & Equipment.

13. Intended for Personal Property

An award by the Monterey County Superintendent of Schools under this solicitation will be for the purchase of equipment, materials, supplies, services, or repairs to be furnished, sold, or leased in accordance with Public Contract Code 20111 and 20650. Awards shall include allowance for installation and assembly services incidental and necessary for use of the equipment, materials, supplies, and repairs purchased or leased. When any services or repairs fall into a category of Public Works as defined in Public Contract Code 22002, an LEA may use this California contract only up to $14,999 for labor and services, but for an unlimited dollar amount for any supplies, materials, equipment or personal property to be staged and ready for use in a local Public Works project. Other rules may apply in the event an MCOE contract award is converted to a CMAS contract.

14. Public Works Limitations

When Public Works services cost $15,000 or more, an LEA, under most situations, must bid itself independently for the services and labor related to the public work, but may use this contract for the contracted supplies, material or equipment related to the project. If circumstances allow, LEAs may also combine this competitively bid contract with other alternative authorities for Public Works projects as may be allowed by law, such as Public Contract Code 22030, Education Code17406 or Government Code 1466. LEAs should consult with their own legal counsel to see if such statutes apply to their Public Works projects.

15. Start Date

Once the award is made to the Contractor/Vendor and signatures have been placed on the contract from both parties, the Awarded Contractor/Vendor is authorized to begin selling to eligible Agencies. MCOE will begin informing LEAs of the Contract once the Contract has been signed.

16. Posted Prices and Requests for Quotes

The Awarded Contractor/Vendor, in cooperation with MCOE's agent, must make provision for LEAs to quickly ascertain bid

prices by posting prices, posting a link or contact for prices, distributing catalogs and price lists, responding to requests for quotations, or participating in eCommerce.

The 2 percent Transaction Fee on all sales is a cost of doing business to the Vendor and the requirement for the fee is publicly disclosed in these bid documents for the edification of all buying agencies and LEAs. Transaction fees should not appear as a line item on a quotation or on listed bid pricing. The final price quoted or displayed must be inclusive of the participation fee on all pricing and quotations.

17. Submission of Orders and Delivery

After entering into an agreement with MCOE, an LEA electing to use this Contract will enter into a separate contract with the Vendor by way of a purchase order or separate contracting document ("Separate Contract"). Purchase orders will be issued by participating LEAs to contractor/Vendor.

LEAs will fax or mail purchase orders directly to the CalSave office fax at (866) 488-3729) unless other arrangements have been made and agreed to by the CalSave Administrator. LEAs may also use Epylon eCommerce software for transmission of purchase orders. Standard business practice is for all purchase orders received by 3:00 p.m. Pacific Time to be logged and forwarded to the appropriate Vendor on the same day received, unless unusual circumstances occur. It is the responsibility of the awarded/Vendor contractor to track any purchase order received directly from an LEA and to include that order on quarterly reports.

Awarded Contractor/Vendor will deliver goods, services, and corresponding invoices directly to the participating LEAs and receive payments directly from the participating LEAs as per bid specifications.