



PROJECT MANUAL

ROOFING PROJECT

7 Maple Ave., Hastings-on-Hudson, NY 10706

July 7, 2022

LIBRARY BOARD of
TRUSTEES

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SECTION B - NOTICE TO BIDDERS

| HASTINGS-ON-HUDSON PUBLIC LIBRARY ROOFING PROJECT

NOTICE IS HEREBY GIVEN that sealed bids will be received by the Village Clerk of the Village of Hastings-on-Hudson until 11:00 AM on August 22, 2022, Hastings-on-Hudson, Municipal Building, 7 Maple Avenue, Hastings-on-Hudson, NY 10706, at which time and place said sealed bids will be publicly opened and read aloud for the furnishing and/or placing of the following materials:

This roofing project will retain a much of the existing roof components to avoid sending material to the landfill. The existing flat roof was installed using the Inverted Roof Membrane Assembly. The existing ballast and Styrofoam insulation will be re-used. The existing BUR membrane will be overlaid with Siplast Paradiene 20 TG and Teranap. Base-flashings will be removed but are not ACRM; new flashing will be Veral or Parapro. The installation will be covered by a 20-year manufacturer's warranty. The roof area is approximately 7, 725 sq. ft.

Specifications and Bid proposal forms will be available on July 25, 2022 online at <https://www.hastingsgov.org/village-clerk/pages/rfps-and-bid-documents> or by sending an email to the Village Clerk at Acostantini@hastingsgov.org.

A **mandatory bidder walk** through will be held Monday, August 8, 2022 at 11:00 AM at the Library.

Any technical questions related to the project will be answered by addenda only emailed to all bidders. The last day/time questions will be accepted for addenda answer is issued will be Monday, August 15, 2022.

In addition to the above, the Village of Hastings-on-Hudson has partnered with BidNet as part of the Empire State Purchasing Group and will post our bid opportunities and any addendums to this site. As a vendor, you can register with Empire State Purchasing Group and be sure that you see all of the Village's available bids, addendums, and opportunities. Detailed plans and specifications for said bid may be obtained through the Empire State Purchasing Group at the following link: <http://www.bidnetdirect.com/new-york/hastings-on-hudson>

Bids shall be made on the Proposal Form, furnished with the Specifications and must be accompanied by a Bid Bond acceptable to the Library, or a certified cashier's check, drawn on a solvent bank account in the amount of not less than 5% of the total amount of the Bid. Checks shall be made payable to the Hastings-on-Hudson Public Library, New York, and are to be held by the Library as a guarantee for the proper execution and delivery of the Contract and bonds to secure the faithful performance thereof. In default of such execution and delivery of Contract and Bonds, the amount of the deposit represented by the check shall be forfeited to and retained by the Library as liquidated damages.

All bids must be submitted in sealed envelopes plainly marked **“Bid for Hastings-On-Hudson Roof Project – due August 22, 2022.”**

The Library reserves the right to accept or reject any or all bids and to waive any informalities at their discretion, and to award contracts in a manner deemed to be in the best interests of the Library even if such award is for other than the lowest bidder.

All technical questions should be **directed in writing by email** to Mary Beth Murphy, Villagemanager@hastingsgov.org and Donald MacDonald Architect, donaldarch@icloud.com or by mail to 7 Maple Avenue, Hastings-on-Hudson, NY 10706

The work of the project must be completed expeditiously and before the end of 2022.

Anthony Costantini Village Clerk

SECTION B - INSTRUCTIONS TO BIDDERS

1. **DOCUMENTS:** Complete sets of Bidding Documents will be issued for bidding purposes as stated in the "Notice to Bidders." A complete set of Documents consists of the following:
 - A bound copy of the Project Manual
 - Addenda (if any)
 - Contract Plans (if any)

2. **PROPOSALS:** To be considered, proposals on the forms included herein, must be a set-in accordance with these Instructions to Bidders. All bids must be submitted on the prescribed forms which are bound in the specifications as Section C. All blank spaces for bid prices must be filled in, in both words and figures, either typed or in ink.

Proposals that contain any omission, erasures, alterations, additions, or items not called for in itemized Proposal, or that contains irregularities of any kind, may constitute sufficient cause for rejection of the bid. In case of any discrepancy in the price or amount bid in the Proposal, the price, as expressed in words, shall govern. All bids must be submitted in sealed envelopes addressed to Village Clerk, Village of Hastings-on-Hudson, Westchester County, New York and be clearly identified with (1) Project Name, (2) Name of Bidder and address. Proposals shall be signed with name typed below signature. The Bidder's seal, if a corporation, shall be affixed under the Bidder's signature. Telephone or telegraphic bids will not be accepted.

3. **QUALIFICATIONS OF BIDDERS:** The Owner may make such investigations as he deems necessary to determine the qualifications of the Bidder to perform the work, and the Bidder shall furnish information and data for this purpose as may be required. The Owner reserves the right to reject any bid if the evidence submitted by a Bidder, or the investigation of such Bidder, fails to satisfy the Owner, that such Bidder is properly qualified to carry out obligations of the Contract and to complete the work contemplated therein within the time designated. Fraudulent statements shall cause rejection of Proposal and forfeiture of bid security.

4. **CONDITIONS OF WORK:** Each bidder must inform himself fully of conditions relating to the construction and labor under which work will be performed. Failure to do so will not relieve a successful Bidder of his obligation to furnish all material and labor necessary to carry out the provisions of the contract and to complete the work for the consideration set forth in his Bid. Bidders' attention is direction to Paragraph 1 of the Bid Proposal, in which the Bidder certifies that he has examined the site. Bid shall include the complete costs of furnishing all materials, with the Drawings and Specifications and all other expenses incidental thereto. Local and State sales taxes shall not be included in the bid. Insofar as possible, any Contractor in the carrying out of his work must employ such methods or means as will not cause any interruption of or interference with the work of any other Contractor, or of the proper functioning of the existing facilities of adjacent or contingent properties.

- 5. ADDENDA AND INTERPRETATION:** Every request for information or interpretation of Bidding Documents or Drawings must be addressed by email to Donald MacDonald - Architect at donaldarch@icloud.com, to be given any consideration, must be received at least six (6) days prior to the date fixed for the opening of bids. Any and all such interpretations, any supplemental instructions, will be in the form of written Addenda and will be emailed to all prospective Bidders. The failure of any Bidder to receive any such Addenda will not relieve the Bidder of any obligation under his Bid submitted. Any Addenda so issued shall become part of the Bidding Documents. Reception of Addenda shall be noted on the “Bid Form.”
- 6. BID SECURITY:** Each bidder is required to deposit at the time of submission of his bid, a Bid Bond or certified check in an amount representing five percent (5) of his bid payable to the Owner, which amount the Bidder agrees is to be forfeited as liquidated damages and not as a penalty if in case he is awarded the contract, and he shall thereafter fail to execute a Contract with the Owner under the conditions of his Proposal or to furnish the bonds required for the faithful performance of this Contract. Bidders who submit certified checks must accompany them with a Consent of Surety from a recognized Bonding Company agreeing to supply a Performance Bond and Labor and Materials Bond if the contract is awarded to the Bidder.
- Such bid security will be returned to all except the three lowest formal Bidders within three days after the formal opening of the Bids, and the remaining bid security will be returned to the other bidders after the Owner and the accepted Bidder have executed the Contract Documents. In the event no Contract has been so executed within forty-five (45) calendar days after the date of the opening of the bids, upon the demand of the Bidder, so long as he has not been notified of the acceptance of his bid, his bid security will be returned. The Bid Security of the successful Bidder will be retained until the filing and approval of the bonds and insurance.
- 7. INSURANCE REQUIRED:** The successful Bidder will be required to procure and pay for the following types of insurance, in accordance with the provision listed in Pages E-1 through E-3. Additionally the successful bidder will be required to procure separate insurance policies for each municipality listed in section A “NOTICE TO BIDDERS”.
- **General Liability Insurance**
 - **Automobile Liability Insurance**
 - **Compensation, Disability and Employer’s Liability Insurance**
 - **Unemployment Insurance**

- 8. SECURITY FOR FAITHFUL PERFORMANCE:** The Contractor shall, prior to execution of the Contract submit two separate executed bonds, (1) a Performance Bond in an amount equal to one hundred percent (100%) of the accepted bid as security for the faithful performance of the terms, covenants and conditions of the Contract; and (2) a Labor and Material Payment Bond for the full amount of the Contract price guaranteeing the full payment of all persons performing labor or furnishing material or rentals, under the contract. The Bonds shall be prepared as specified in Section D – Form of Performance Bond and Labor and Material Bond, and shall have as Surety thereon such Surety Company or companies as are acceptable to the Owner and are authorized to transact business in the State of New York.
- In addition, at the time of final payment, a one year Maintenance Bond Guaranteeing against defective materials and workmanship will be required in an amount equal to one hundred percent (100%) of the contract amount.
- 9. FORM OF AGREEMENT:** The form of agreement is included in these documents in the appendix.
- 10. AWARD:** The contract will be awarded to the lowest responsible bidder for the base bid amount or the base bid including alternates pursuant to the provisions of the General Municipal Law and what is in the best interest of the Library. The Library Board reserves the right to determine responsibility based on an evaluation of the contractor's qualifications, experience, organization, finances, past performance, and other applicable factors. The Library Board further reserves the right to reject any and all bids. The Library Board reserves the right to accept or decline all or parts of the bid.
- 11. OWNER:** HASTINGS-on-HUDSON PUBLIC LIBRARY (Library)
- 12. SALES TAX EXEMPTION:** Under Chapter 513 of the Laws of New York 1974, all materials and supplies sold to a Contractor and which are to become an integral, component part of a structure, building or real property owned by an exempt organization such as the HASTINGS-on-HUDSON PUBLIC LIBRARY (Library) are exempt from the payment of New York State Sales or compensator use taxes. Therefore, the Contractor should not include any amount in its bid price to cover sales taxes for the above items.
- 13. REQUIRED SUBMISSIONS:** Prior to award, the successful bidder will be required to meet the following requirements:
- The successful bidder must provide the Library with a certificate issued by the Secretary of State that the Corporation is authorized to do business within the State and is presently in good standing. If the entity to whom the bid is awarded is not a corporation, it would be required that the entity's certificate of doing business, which should be on file in the County Clerk's office, be provided. (This would also hold true in the case of joint ventures which would be required to disclose the underlying entities which make up the joint venture and the supplying of the requisite certificate of doing business of each such entity.)

- A Statement by the successful bidder that no officer, director or stockholder (if less than 10 stockholders) of the successful bidder is an officer or employee of the Library or is a relative of any such Library officer or employee. If such officer, director or stockholder does exist, their names and relationship should be disclosed to the Library.

14. PIGGYBACKING: This contract is made available for use by other governmental entities under the same terms and conditions pursuant to NYS General Municipal Law §103.

SECTION C - BID PROPOSAL

2022 Bid for the Roof Project Hastings-On-Hudson Public Library

TO:

Hastings-On-Hudson Public Library
7 Maple Avenue Hastings-on-Hudson, NY

Bid Submitted By:

(Name)

(Address) (Telephone #) (Federal ID #)

1. I/We do hereby declare that I/we have carefully examined the Instructions to Bidders, the Plans, Profiles and other drawings and the Specifications relating to the above entitled matter and the work, and have also examined the site.
2. I/We do hereby offer and agree to furnish all materials, to fully and faithfully construct, perform and execute all work in the above titled matter in accordance with the Plans, Drawings, and Specifications relating thereto, and to furnish all labor, tools, implements, models, forms, transportation and materials necessary and proper for the purpose for the price/prices as given on the bid forms.
3. I/We do hereby declare that the prices so stated cover all expenses of every kind incidental to the completion of said work, and the contract therefor, including all claims that may arise through damages or any other cause whatsoever.
4. I/We do hereby agree that I/we will execute a contract therefor, containing all the terms, conditions, provisions, and covenants necessary to complete the work according to the Plans and Specifications

therefor within fifteen (15) business days after the award of the contract, and if I/we fail to execute said contract within said period of time, that the Library Board shall have the power to rescind said

5. award and also that the said Board shall retain the proceeds of the certified check, or require the payment of the sum of the bid bond. The Contract execution will serve as the official notification to commence work.
6. I/We do also declare and agree I/we will commence the work within five (5) days after the contract execution and will complete the work fully and in every respect on or before the time specified in said contract and do authorize the said Board, in case of failure to complete the work within such specified time, to employ such men, equipment and materials as may be necessary for the proper completion of said work and to deduct the cost thereof from the amount due under the contract. I/we further agree that the Owner may deduct for liquidated damages the sums set forth in the Special Conditions if I/we fail to complete the work within the time limits specified.
6. I/We hereby affirm that by submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid, each party thereto certifies as to its own organization, under the penalty of perjury, that to the best of knowledge and belief;
 - (a) The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor; and
 - (b) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and
 - (c) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition; and
 - (d) No member of the Library Board or any officer or employee of any of the Library or person whose salary is payable in whole or in part from the said Library is, shall be or become interested, directly or indirectly, as a contracting party, partner, stockholder, surety or otherwise, in this bid, or in the performance of the Contract, or in the supplies, materials or equipment and work or labor to which it relates, or in any portion of the profits thereof.
7. I/We hereby further agree that this proposal is a firm bid and shall remain in effect for a period of at least forty-five (45) calendar days from the date of the opening bids, and that within said period of forty-five (45) days, the Village will accept or reject this proposal, or this time period may be extended by mutual agreement.
8. I/We do hereby declare that, if this is a corporate bid, I have been duly authorized to act as the signator on this proposal in behalf of this corporation.

10. I/We hereby affirm, under penalty of perjury, the truth of all statements in this proposal.
11. I/We will accept, in full payment for the completed work, the following unit prices as my/our base bid.
12. I/We hereby agree that I/we shall make no claim on account of any variation of the approximate estimate in the quantities of work to be done, whether the actual quantities are greater, smaller or completely deleted. A change in the quantity of any item shall not be regarded as sufficient grounds for a change in unit price of that item.
13. **I/We will accept, in full payment for the completed work, the following lump sum price as my/our total bid.**

Amount in Figures: \$ _____

Amount in Words

Bid Addenda Acknowledgment:

Addenda # _____, Dated _____

Addenda # _____, Dated _____

Addenda # _____, Dated _____

SIGNATURE OF OFFICER

STATEMENT OF QUALIFICATIONS

The following is a list of places where we have performed work of similar character and magnitude within the last five years, together with references:

LOCATION	DESCRIPTION OF WORK	APPROXIMATE COST	NAME & PHONE OF ENGINEER/ OWNER
			..
			..

The full name and places of residence of all persons and parties interested as principals in the foregoing proposal are as follows:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

NON-COLLUSIVE BIDDING CERTIFICATION

Date:

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

- (1) The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;
- (2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and
- (3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

I hereby affirm under the penalties of perjury that the foregoing statement is true.

Company

By

Title

Address

Phone

INDIVIDUAL ACKNOWLEDGMENT

STATE OF NEW YORK)

) SS:

COUNTY OF WESTCHESTER) On this _____ day of

me personally came

known to me to be the person described in and who executed the foregoing instrument, and he acknowledged to me that he executed the same.

, in the year 20 __, before

to be known and

PARTNERSHIP ACKNOWLEDGMENT

Notary Public

STATE OF NEW YORK COUNTY OF WESTCHESTER On this _____ day of

me personally came

)

) SS:)

, in the year 20 __, before

,

a member of the co-partnership of

to me known and known to me to be the person described in and who executed the foregoing instrument, and he acknowledged to me that he executed the same as and for the act and deed of the said co-partnership.

Notary Public

CORPORATION ACKNOWLEDGMENT

STATE OF NEW YORK)

) SS:

COUNTY OF WESTCHESTER)

On this _____ day of

me personally came

to me known, who, being by me duly sworn, did depose and say that he resides in/at

that he is the _____ of the

,

, in the year 20 __, before

,

, the corporation described in and which executed the foregoing instrument, that he knows the corporate seal of the said corporation, that the seal affixed to the said instrument is such corporate seal; and that it was so affixed by order of the Board of Directors of the said

corporation, and that he signed his name thereto by like order.

Notary Public

CERTIFICATE OF COMPLIANCE WITH NYS SEXUAL HARASSMENT LAW

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that the bidder has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such policy shall, at a minimum, meet the requirements of section 201-g of the labor law.

Date:

(Legal Name of Bidder)

By:

(Authorized Signature)

SECTION D- FORMS

1. Form of Construction Contract - AIA Document A-104-2017 Standard Abbreviated Form of Agreement Between Owner & Contractor
2. Form of Bid Bond - AIA Document A-310-2010 Bid Bond
3. Form of Performance Bond -AIA Document A-312-2010 Performance Bond
4. Form of Warranty Bond AIA cDocument A313-2020 Warranty Bond

SECTION E- INSURANCE

1. The Contractor, prior to signing of the contract, shall provide to each Village, and maintain throughout the life of the contract, at his own cost and expense, proof of the following insurance by insurance companies licensed in the State of New York.

- General Liability Insurance with limits of no less than \$1,000,000/\$3,000,000 Bodily Injury and Property Damage, and including coverage for:
 - (1) Premises - Operations;
 - (2) Contractual as respect this contract including the indemnification set forth in Section 146 - Indemnity Clause of the General Conditions.
 - (3) Any deductibles shall not be the liability of the Village.
- Owners and Contractors Protective Liability policy - \$1,000,000 single limit endorsed that Village not responsible for premium.
- Automobile Liability Insurance with a single limit of liability per occurrence for bodily injury and per occurrence for property damage at \$1,000,000. This insurance shall include coverage for:
 - (1) Owner automobiles;
 - (2) Hired automobiles;
 - (3) Non-owned automobiles. Y
- Umbrella Excess Liability Policy, with limits no less than \$5,000,000 each occurrence.
- Compensation, Disability and Employer's Liability Insurance - The Contractor shall take out and maintain during the life of this contract the statutory Workmen's Compensation, Disability, and Employer's Liability Insurance for all of his employees to be engaged in work on the project under this Contract and, in case any such work is sublet, the Contractor shall require the Subcontractor Similarly to

provide Workmen's Compensation, Disability, and Employer's Liability Insurance for all of the latter's employees to be engaged in such work.

- Unemployment Insurance - The Contractor for the agreed consideration, promises and agrees to pay the contributions measured by the wages of his employees required by State Unemployment Insurance Laws and all amendments thereto, and to accept the account of any contribution measured by the wages as aforesaid of employees of the Contractors and his subcontractors assessed against the owner under the authority of said law.
2. All policies and certificates of insurance of the Contractor shall state that the "Hastings on Hudson Library, Donald MacDonald - Architect, Russel Watsky - Roofing Consultant are additional insured" under the policy.
 3. The Contractor, as part of the Contract, shall agree to the following clauses for all policies and certificates of insurance:
 - The insurance companies issuing the policy or policies shall have no recourse against the Village for payment of any premiums or for assessments under any form of policy.
 - Any and all deductibles in the above described insurance policies shall be assumed by and be for the account of, and at the sole risk of the Contractor. The Contractor agrees to indemnify and hold harmless the Village and its offices, employees, agents and officials for any and all such deductibles.
 - In case of cancellation or material change in any of the policies, thirty (30) days notice shall be given to the Village, by registered mail, return receipt requested.
 4. All property losses shall be made payable to and adjusted with the Village.
 5. All policies of insurance shall be acceptable to and approved by the Department of Law prior to the inception of any work.
 6. Other coverage may be required by the Village based on specific needs.
 7. I, at any time, any of the said policies shall be or become unsatisfactory to the Village, as to form or substance, or if a company issuing any such policy shall be or become unsatisfactory to the Village, the Contractor shall promptly obtain a new policy, submit the same to the Department of Law of the Village for approval and submit a certificate thereof as herein above provided. Upon failure of the Contractor to furnish, deliver and maintain such insurance as above provided, this contract, at the election of the Village, may be forthwith declared suspended, discontinued or terminated. Failure of the Contractor to take out and/or to maintain or the taking out and/or maintenance of any required insurance shall not relieve the Contractor from any liability under the contract, nor shall the insurance requirements be construed to conflict with the obligations of the Contractor.

8. In the event that claims in excess of these amounts are filed by reason of any operations under the contract, the amount of excess of such claims, or any portion thereof, may be withheld from payment due or to become due the Contractor until such time as the Contractor shall furnish such additional security covering such claims.

SECTION F - LABOR PROVISIONS

COMPLIANCE WITH THE LABOR LAW AND OTHER DEPARTMENT OF LABOR REGULATIONS

The Contractor shall comply with the applicable provisions of the “Labor Law” as amended, of the State of New York. This Contract shall be void unless applicable sections of said Labor Law are complied with. Each and every provision of law and clause required by law to be part of this Contract shall be deemed to be included herein and this Contract shall be read and enforced as though it were included herein, and if through mere mistake or otherwise any such provision is not included, then upon the application of either party hereto, the Contract shall forthwith be physically amended to make such inclusion.

Specifically, section 200-e, of the Labor Law, as so amended, prohibits in contracts, discrimination on account of race, creed, color, or national origin in employment of citizens upon public works.

There may be deduced from the amount payable to the Contractor by the Owner under this Contract a Penalty of five (\$5.00) dollars for each person for each calendar day during which such person was discriminated against or intimidated in violation of Section 200-e; provided, that for a second or any subsequent violation of the provisions of said paragraph, his Contract may be canceled or terminated by the Owner and all monies due or to become due hereunder may be forfeited.

NON-DISCRIMINATION CLAUSE

During the performance of the Contract, the Contractor agrees as follows:

- The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin, and will take affirmative action to insure that they are afforded equal employment opportunities without discrimination because of race, creed, color, or national origin. Such action shall be taken with reference, but not limited to: recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff or termination, rates of pay or other forms of compensation, and selection for training or retraining, including apprenticeship and on-the-job training.
- The Contractor will send to each labor union or representative of workers with which he has or is bound by a collective bargaining or other agreement or understanding, a notice, to be provided by the Commission of Human Rights, advising such labor union or representative of the Contractor’s agreement under clauses “a.” through “h.” hereinafter called “non-discrimination clauses”, and requesting such labor union or representative to agree in writing, whether in such collective bargaining or other agreement or understanding or otherwise, that such labor union or representative will not

discriminate against any member or applicant for membership because of race, creed, color, or national origin, and will take affirmative action to insure that they are afforded equal membership opportunities without discrimination because of race, creed, color, or national origin. Such action shall be taken with reference, but not be limited to: recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff or termination, rates of pay, or other forms of compensation, and selection for training or retraining including apprenticeship and on-the-job training. Such notice shall be given by the Contractor, and such written agreement shall be made by such labor union or representative, prior to the commencement of performances of this contract. If such labor union or representative fails or refuses so to agree in writing, the Contractor shall promptly notify the Commission for Human Rights of such failure or refusal.

- The Contractor will post and keep posted in conspicuous places, available to employees and applicants for employment, notices to be provided by the Commission for Human Rights setting forth the substance of the provisions of clauses “a.” and “b.” and such provisions of the State's Laws against discrimination as the Commission for Human Rights shall determine.
- The Contractor will state, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, that all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, or national origin.
- The Contractor will comply with the provisions of Sections 291-299 of the Executive Law and the Civil Rights Law, will furnish all information and reports deemed necessary by the Commission for Human Rights under these non-discrimination clauses and such sections of the Executive Law, and will, permit access to his books, records, and accounts by the Commission of Human Rights, and Owner representatives/counsel for purposes of investigation to ascertain compliance with these non-discrimination clauses and such sections of the Executive Law and Civil Rights Law.
- The Contract may be forthwith cancelled, terminated, or suspended in whole or in part, by the contracting agency upon the basis of a finding made by the Commission of Human Rights that the Contractor has not complied with these non-discrimination clauses, and the Contractor may be declared ineligible for future contracts made by or on the behalf of the Owner/Contracting Agency until he satisfied the Commission for Human Rights that he has established and is carrying out a program in conformity with the provisions of these non-discrimination clauses. Such finding shall be made by the Commission for Human Rights after conciliation efforts by the Commission have failed to achieve

compliance with these non- discrimination clauses and after a verified complaint has been filed with the Commission, notice thereof has been given to the Contractor and an opportunity has been afforded him to be heard publicly before three members of the Commission. Such sanctions may be imposed and remedies otherwise provided by law.

- If this Contract is cancelled or terminated under clause “f.”, in addition to other rights of the Owner provided in this contract upon its breach by the Contractor, the Contractor will hold the Owner harmless against any additional expenses or costs incurred by the Owner in completing the work or in purchasing the services, materials, equipment, or supplies contemplated by this contract, and the Owner may withhold payments from the Contractor in an amount sufficient for this purpose and recourse may be had against the surety on the performance bond if necessary.
- The Contractor will include the provisions of clauses “a.”, through “g.” in every subcontract or purchase order in such a manner that such provisions will be binding upon each subcontractor or vendor as to operations to be performed within jurisdictional locale of the Project being contracted by the Owner. The Contractor will take such action in enforcing such provisions of such subcontract or purchase as the Owner/Contracting Agency may direct, including sanctions or remedies for noncompliance. If the Contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the Contracting Agency/Owner, the Contractor shall promptly so notify the Owner’s representatives/counsel, requesting him to intervene and protect the interests of the Owner (Contracting Agency’s jurisdictional area).

G. SPECIAL CONDITIONS

PERMITS:

- 1.) A building permit is required for the project. Contractor to obtain and fill out the permit application and file same. Fees will be waived.
- 2.) The Contractor shall obtain and pay for any other permits and licenses that might be required, and shall comply with local and state building codes, ordinances and regulations.

CONTRACT CLOSEOUT PROCEDURES

- A. At Final Completion the Contractor shall contact the Architect at least 5 working days in advance for an inspection.
- B. Following the inspection the Architect shall determine whether or not Final Completion has been achieved as per the General Conditions.
- C. If the project has been determined to be complete, the Contractor shall deliver to the Owner, if not perviously delivered, the originals of the following items in addition to those required in the General Conditions:
 1. Warranties.
 2. Affidavit of Debts and Claims and Affidavit of Release of Liens

RETAINAGE:

- 1.) Contractor shall hold back 5%retainage on all requisitions for payment per procedures outlined in 4.1.4 in the construction contract AIA Document A1045 - 2017 Standard Abbreviated Fork of Agreement Between Owner and Contractor.

TECHNICAL SPECIFICATIONS

SECTION 02080 HAZARDOUS WASTE/ASBESTOS	23
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SECTION 02080 HAZARDOUS WASTE/ASBESTOS

1.) The existing roof area has been tested for the presence of asbestos containing materials (ACM). **No ACM materials were found.** See the testing report as an appendix to the Project Manual.

SECTION 02413 SELECTIVE DEMOLITION

1. - GENERAL

1. SUMMARY

- A. Protection of building portions and equipment to remain.
- B. Removal and storage of items to be re-used or salvaged.
- C. Property protection.
- D. Removal and disposal of debris from site.
- E. Public protection

2. REGULATORY REQUIREMENTS

- A. Secure and pay for special use permits, governmental fees, licenses and disconnection charges necessary for proper execution of demolition work.
- B. Conform to local/regional rules governing demolition of site structures, safety of adjacent structures, dust control, noise control, run-off control and disposal.

C. SITE CONDITIONS

- D. Protection of Persons: Owner activities will continue in and about Project site during construction.
- E. Install overhead scaffold type protection for the main front public entrance to the building extending a minimum of 5' horizontally from the entrance per drawing #2 on Sheet A-1 of the Construction drawings .

- F. All existing roofing materials and construction debris shall be transported to the ground level and/or dumpsters in containment via a trash chute. No debris shall be thrown off the side of the building.
- G. Protect adjacent areas that are to remain from dust infiltration, unless otherwise noted on the Drawings.
- H. Protection of Existing Property to Remain: Protect existing plants, equipment, and structures that are in areas where Work will be performed and which are to remain. Repair or replace existing property that is to remain that is damaged by Work of this Contract to Architect's satisfaction and at no cost to Owner.
- I. Protect and maintain existing utility services.

2.- PRODUCTS

1. PROTECTION AND SHORING MATERIALS

- A. Provide materials as required for:
 - 1. Bracing
 - 2. Temporary rails
 - 3. Protection fences
 - 4. Side walk enclosures
- B. Provide materials as required for the following types of protection:
 - 1. Protection from water infiltration due to rain or snow.
 - 2. Protection of areas to remain from dirt, debris and dust.
 - 3. Site protection for trees, grass, and other planting areas.
- C. Provide tarps as required to protect building from the weather during demolition. Keep tarps in good condition while in use. Replace as tarps are damaged with use.

3. - EXECUTION

1. EXAMINATION

- A. Examine areas and conditions under which site preparation, clearing and demolition are to be performed. Do not proceed with Work until unsatisfactory conditions have been corrected.

2. PREPARATION

- A. Keep adequate fire protection on site at all times.**DEMOLITION REQUIREMENTS**
- B. Repair demolition performed in excess of that required, at no cost to the Owner.

- C. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing prior to the start of work.
- D. Conduct operations with minimum interference to public or private accesses. Maintain protected egress and access.
- E. When work has started, notify Architect and Engineer immediately if unknown conditions are discovered. If such conditions are found, do not proceed with work in the affected area until notified to do so.

3. TOOLS AND EQUIPMENT

- A. Use only tools and equipment that are appropriate for the specific task.

4. DEMOLITION

- A. Remove existing roof membrane and flashing as noted on the Drawings. Take care not to demolish areas or equipment to remain. Remove debris from site and dispose of legally. Provide dumpsters as required for debris and trash removal.
- B. When demolition is complete, leave roof ready for re-roofing.

5. CLEANING

- A. Clean site of debris and unused materials, and remove from site. Keep public roadways free debris. Truck beds and containers must be covered so as to fully contain debris.

END OF SECTION

SECTION 07535 MODIFIED BITUMEN MEMBRANE ROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES:

- A. PREPARATION OF EXISTING ROOF SYSTEM TO RECEIVE ROOFING MATERIALS
- B. ROOF MEMBRANE APPLICATION
- C. ROOF FLASHING APPLICATION
- D. ROOF PROTECTION SYSTEM APPLICATION
- E. INCORPORATION OF SHEET METAL FLASHING COMPONENTS AND ROOFING ACCESSORIES INTO THE ROOF SYSTEM

1.02 PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

- A. SHEET METAL FLASHING AND TRIM
- B. SHEET METAL ROOFING SPECIALTIES
- C. PAVER BALLAST & PEDESTALS

1.04 REFERENCE STANDARDS

References in these specifications to standards, test methods, codes etc., are implied to mean the latest edition of each such standard adopted. The following is an abbreviated list of associations, institutions, and societies which may be used as references throughout these specifications.

ASTM American Society for Testing and Materials
 Philadelphia, PA (215) 299-5585

BOCA Building Officials and Code Administrators International, Inc.

Donald Mac Donald - Architect. 10 B Street, Cold Spring, NY 10516 donaldarch@icloud.com

Country Club Hills, IL (708) 799-2300

FM	Factory Mutual Engineering and Research Norwood, MA (617) 762-4300
NRCA	National Roofing Contractors Association Rosemont, IL (847) 299-9070
OSHA	Occupational Safety and Health Administration Washington, DC (202) 523-1452
SMACNA	Sheet Metal and Air Conditioning Contractors National Association Chantilly, VA (703) 803-2980
UL	Underwriters Laboratories Northbrook, IL (708) 272-8800

1.05 DESCRIPTION OF WORK

The basic work descriptions (components, layering and attachment methods) required in this specification are referenced below. See also Parts 2 & 3 for specific products, preparation, application and details.

PROJECT TYPE: Recovery

DECK: Concrete SLOPE: Less than 1/2 inch

EXISTING ASSEMBLY: Smooth-surfaced asphalt built-up roof system, applied to the substrate. Remove base flashings and wet/damaged/deteriorated ply felts and insulation. Replace the areas using compatible materials, bringing them back level with surrounding surfaces and into a watertight condition.

SUBSTRATE PREPARATION: Prime with asphalt primer, at a rate of 100 square feet per gallon.

ROOF SYSTEM: **Paradiene 20 TG**, torch applied

Teranap 1M Sand, torch applied

Flashing System: **Veral Aluminum**, torch applied.

Supplemental Flashing System: **Parapro 123** Flashing System.

PROTECTION SYSTEM: SEPARATOR SHEET/DRAINAGE MEDIUM: **Paradrain** Drainage Mat, loose laid.

INSULATION: Extruded polystyrene, laid dry over drainage mat; re-use existing – replace breakage as needed.

PROTECTIVE FILTER FABRIC: Lay **Paradrain 40 Filter Fabric** dry over insulation.

BALLAST: Re-distribute existing crushed stone ballast and re-set existing concrete pavers.

SPECIFIED GUARANTEE: Twenty year Waterproofing Guarantee.

1.06 SUBMITTALS

All submittals which do not conform to the following requirements will be rejected.

A. SUBMITTALS OF EQUALS. Submit primary roof systems to be considered as equals to the specified roof system no less than 10 days prior to bid date. Primary roof systems which have been reviewed and accepted as equals to the specified roof system will be listed in an addendum prior to bid date; only then will equals be accepted at bidding. Include the following submittals of equals prior to bid:

1. Two 3 inch x 5 inch samples of the primary roofing and flashing sheets.
2. Latest edition of the roofing system manufacturer's specifications and installation instructions.
3. Descriptive list of the materials proposed for use.
4. Letter from the proposed primary roofing manufacturer confirming the number of years it has directly manufactured the proposed primary roofing system under the trade name and/or trademarks as proposed.
5. List of three (3) of the manufacturer's projects, located in the United States, of equal size and degree of difficulty which have been performing successfully for a period of at least five (5) years.

6. Complete list of material physical and mechanical properties for each sheet including: weights and thicknesses; low temperature flexibility; breaking load; ultimate elongation; dimensional stability; compound stability; granule embedment and resistance to thermal shock (foil faced products).

7. Sample copy of the specified guarantee.

B. SUBMITTALS PRIOR TO CONTRACT AWARD:

1. Letter from the proposed primary roofing manufacturer confirming that the bidder is an acceptable Contractor authorized to install the proposed system.
2. Letter from the primary roofing manufacturer stating that the proposed application will comply with the manufacturer's requirements in order to qualify the project for the specified guarantee.

C. SUBMITTALS PRIOR TO PROJECT CLOSE-OUT:

1. Manufacturer's printed recommendations for proper maintenance of the specified roof system including inspection frequencies, penetration addition policies, temporary repairs, and leak call procedures.

1.07 QUALITY ASSURANCE

A. ACCEPTABLE PRODUCTS. Primary roofing products, including each type of sheet, all manufactured in the United States, shall be supplied by a single manufacturer which has been successfully producing the specified types of primary products for not less than 10 years. Secondary or accessory products shall be acceptable to the manufacturer of the primary roofing products.

B. ACCEPTABLE CONTRACTOR. Contractor shall have a minimum of 2 years experience in successfully installing the same or similar roofing materials and be certified in writing by the roofing materials manufacturer to install the primary roofing products.

C. SCOPE OF WORK. The work to be performed under this specification shall include but is not limited to the following: Attend necessary job meetings and furnish competent and full time supervision, experienced roof mechanics, all materials, tools, and equipment necessary to complete, in an acceptable manner, the roof installation in accordance with this specification. Comply with the latest written application instructions of the manufacturer of the primary roofing products. In addition, application practice shall comply with requirements and recommendations contained in the latest edition of the Handbook of Accepted Roofing Knowledge (HARK) as published by the National Roofing Contractor's Association, amended to include the acceptance of a phased roof system installation.

- D. LOCAL REGULATIONS. Conform to regulations of public agencies, including any specific requirements of the city and/or state of jurisdiction.
- E. MANUFACTURER REQUIREMENTS. Ensure that the primary roofing materials manufacturer provides direct trained company personnel to attend necessary job meetings, perform periodic inspections as necessary, and conducts a final inspection upon successful completion of the project.

1.08 PRODUCT DELIVERY STORAGE AND HANDLING

- A. DELIVERY. Deliver materials in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.
- B. STORAGE. Store materials out of direct exposure to the elements. Store roll goods on a clean, flat and dry surface. All material stored on the roof overnight shall be stored on pallets. Rolls of roofing must be stored on ends. Store materials on the roof in a manner to preclude overloading of deck and building structure. Store materials such as solvents, adhesives and asphalt cutback products away from open flames, sparks or excessive heat. Cover all material using a breathable cover such as a canvas. Polyethylene or other non-breathable plastic coverings are not acceptable.
- C. HANDLING. Handle all materials in such a manner as to preclude damage and contamination with moisture or foreign matter. Handle rolled goods to prevent damage to edges or ends.
- D. DAMAGED MATERIAL. Any materials that are found to be damaged or stored in any manner other than stated above will be automatically rejected, removed and replaced at the Contractor's expense.

1.09 PROJECT/SITE CONDITIONS

A. REQUIREMENTS PRIOR TO JOB START

1. NOTIFICATION. Give a minimum of 5 days notice to the Owner and manufacturer prior to commencing any work and notify both parties on a daily basis of any change in work schedule.
2. PERMITS. Obtain all permits required by local agencies and pay all fees which may be required for the performance of the work.

3. SAFETY. Familiarize every member of the application crew with all fire and safety regulations recommended by OSHA, NRCA and other industry or local governmental groups.

B. ENVIRONMENTAL REQUIREMENTS

1. PRECIPITATION: Do not apply roofing materials during precipitation or in the event there is a probability of precipitation during application. Take adequate precautions to ensure that materials, applied roofing, and building interiors are protected from possible moisture damage or contamination.

C. PROTECTION REQUIREMENTS

1. MEMBRANE PROTECTION. Provide protection against staining and mechanical damage for newly applied roofing and adjacent surfaces throughout this project.
2. TORCH SAFETY: Designate one person on each crew to perform a daily fire watch. The designated crew member shall watch for fires or smoldering materials on all areas of roof construction. Continue the fire watch for one hour after roofing material application has been suspended for the day.
3. LIMITED ACCESS. Prevent access by the public to materials, tools and equipment during the course of the project.
4. DEBRIS REMOVAL. Remove all debris daily from the project site and take to a legal dumping area authorized to receive such materials.
5. SITE CONDITION. Complete, to the owner's satisfaction, all job site clean-up including building interior, exterior and landscaping where affected by the construction.

1.10 GUARANTEE/WARRANTY

- A. WATERPROOFING GUARANTEE. Specified Guarantee: Upon successful completion of the project, and after all post installation procedures have been completed, furnish the Owner with the manufacturer's 20 year labor and materials membrane guarantee. The guarantee shall be a term type, without deductibles or limitations on coverage amount, and shall be issued at no additional cost to the Owner. This guarantee shall not exclude random areas of ponding from coverage.

- > Siplast twenty year Teranap Waterproofing guarantee.

PART 2 PRODUCTS

2.01 ROOFING SYSTEM ASSEMBLY/PRODUCTS

A. ROOFING MEMBRANE SYSTEM. A roof membrane system consisting of two (2) plies of a prefabricated, torch grade Styrene-Butadiene-Styrene (SBS) copolymer modified asphalt system secured to a prepared substrate. The modified bitumen base ply and modified bitumen finish ply shall be prefabricated using a fiberglass mat reinforcement. Both reinforcement mats shall be impregnated and coated each side with a high quality SBS modified bitumen blend. Both modified bitumen sheets shall be coated on one side with a high quality torch grade SBS bitumen blend. The adhesive layer shall be manufactured using a process that embosses the surface with a grooved pattern to provide optimum burnoff of the plastic film and to maximize application rates. The modified bitumen base sheet shall possess waterproofing capability, such that a phased roof application, with only the modified bitumen base ply in place, can be achieved for prolonged periods of time without detriment to the watertight integrity of the entire roof system.

- > **Siplast Paradiene 20 TG/Teranap** - torchable roof system

1. MODIFIED BITUMEN BASE PLY, STRIPPING PLY AND FLASHING REINFORCING SHEET

- a) Thickness (avg.): 80 mils – 3.3 mm
- b) Weight (avg. per 100 ft² of coverage) - 110 lbs – 4.4 kg/m²
- c) Low temperature flexibility @ 13° F (-25° C) - PASS (ASTM D 5147)
- d) Breaking Load (avg.) @ 73° F - 30 lbf/inch (ASTM D 5147)
- e) Ultimate Elongation (avg.) @ 73° F - 50% (ASTM D 5147)
- f) Compound Stability (min.) - 248° F (120° C)
- g) Approvals - UL Class listed, FM Approved (products shall bear seals of approval)
- h) Reinforcement - fiberglass mat

- > **Siplast Paradiene 20TG** - torchable grade

2. MODIFIED BITUMEN FINISH PLY

- a) Thickness (avg.): 160 mils - 4.0 mm
- b) Weight (per 100 ft²) - 90 lbs - 4.4 kg/sq m

- c) Low temperature flexibility @ -13° F (-25° C) - PASS (ASTM D 5147)
- d) Breaking Load (avg.) @ 73° F - 70 lbf/inch (ASTM D 5147)
- e) Ultimate Elongation (avg.) @ 73° F - 90% (ASTM D 5147)
- f) Compound Stability (min.) - 248° F (120° C)

- h) Reinforcement - non woven polyester geotextile
- I) Surfacing – Sanded Surface

> **Siplast Teranap 1M Sand/Sand**

B. Flashing Membrane Assembly: A flashing membrane assembly consisting of a prefabricated, reinforced, Styrene-Butadiene-Styrene (SBS) block copolymer modified asphalt membrane with a continuous, channel-embossed metal-foil surfacing. The finish ply shall conform to ASTM D 6298 and the following physical and mechanical property requirements.

1. Metal-Clad Modified Bitumen Flashing Sheet

- a) Thickness (avg): 150 mils (3.8 mm) (ASTM D 5147)
- b) Thickness (min): 146 mils (3.7 mm) (ASTM D 5147)
- c) Weight (min per 100 ft² of coverage): 96 lb (4.6 kg/m²)
- d) Coating Thickness – back surface (min): 40 mils (1 mm) (ASTM D 5147)
- e) Low temperature flexibility @ 0° F (-18° C): PASS (ASTM D 5147)
- f) Peak Load (avg) @ 73°F (23°C): 85 lbf/inch (15 kN/m) (ASTM D 5147)
- g) Peak Load (avg) @ 0°F (-18°C): 180 lbf/inch (31.7 kN/m) (ASTM D 5147)
- h) Ultimate Elongation (avg) @ 73°F (23°C): 45% (ASTM D 5147)
- i) Tear-Strength (avg): 120 lbf (0.54 kN) (ASTM D 5147)
- j) Dimensional Stability (max): 0.2% (ASTM D 5147)
- k) Compound Stability (min): 225°F (107°C) (ASTM D 5147)
- l) Cyclic Thermal Shock Stability (maximum): 0.2% (ASTM D 7051)
- m) Approvals: UL Approved, FM Approved (products shall bear seals of approval)
- n) Reinforcement: fiberglass scrim mat or other meeting the performance and dimensional stability criteria
- o) Surfacing: aluminum metal foil

> **Siplast Veral Aluminum**

- C. FLUID APPLIED FLASHING MEMBRANE ASSEMBLY. Resin for Flashing Applications: A multi-component, flexible, polymethylmethacrylate (PMMA) based resin combined with a thixotropic agent for use in combination with fleece fabric to form a monolithic, reinforced flashing membrane.

> **Parapro 123 fluid reinforced flashing system**

1. REINFORCED FLUID APPLIED PMMA FLASHING SYSTEM

- a) Catalyst: A reactive agent used to induce curing of polymethylmethacrylate (PMMA) resins.

> **Pro Liquid Catalyst** by Siplast; Irving, TX

- b) Fleece for Membrane and Flashing Reinforcement: A non-woven, 110 g/m², needle-punched polyester fabric reinforcement as supplied by the membrane system manufacturer.

> **Pro Fleece** by Siplast; Irving, TX

- c) Resin for Flashing Applications: A multi-component, flexible, polymethylmethacrylate (PMMA) based resin combined with a thixotropic agent for use in combination with fleece fabric to form a monolithic, reinforced flashing membrane.

> **Parapro Flashing Resin** by Siplast; Irving, TX

- C. PROTECTION SYSTEM. A protection system consisting of the following components:

1. PREFABRICATED DRAINAGE PANEL. A multi directional core, geotextile covered, high flow capacity, interlocking, high compression strength prefabricated drainage panel.

> **Paradrain** manufactured by Siplast – 1-800-922-8800

2. INSULATION

- a) **EXTRUDED POLYSTYRENE**. (XEPS) A continuous closed-cell polystyrene foam panel conforming to ASTM C 578-87 TYPE IV and ICBO 2257, BOCA 86-98, or SBCCI 8774. **Thickness shall be (3.5”), to match existing.**

> PlazaMate by the Dow Chemical Company

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- > Foamular 604 brand by Owens Corning.
- > GreenGuard by Kingspan.

3. FILTER FABRIC. A filter fabric used for placement between the polystyrene insulation system and the stone ballast or pavers/plaza deck consisting of a black coated nonwoven polyester fabric maintaining a minimum weight of three (3) ounces per square yard (3 oz/sq. yd.).

- > **Paradrain 40 Filter Fabric** by Siplast

C. PAVERS. Hanover concrete pavers 24"x24"x2".

2.02 ROOFING ACCESSORIES

A. ROOFING ADHESIVES

1. FLASHING ADHESIVE. A slump resistant, asphalt cutback flashing adhesive, reinforced with non-asbestos fibers, conforming to ASTM D 4586 Type II requirements.

- > **Siplast PA-828 Flashing Cement**

B. BITUMINOUS CUTBACK MATERIALS

1. PRIMER. A high flash, quick drying, asphalt solvent blend which meets or exceeds ASTM D 41 requirements.

- > **Siplast PA-917 Asphalt Primer**

2. MASTICS. An asphalt cutback mastic, reinforced with non-asbestos fibers, used as a base for setting metal flanges conforming to ASTM D 4586 Type II requirements.

- > **Siplast PA-1021 Plastic Cement**

C. PMMA Primers

1. PMMA Primer for Concrete/Masonry/Wood/Plywood Substrates: A two component, PMMA based primer for use over concrete, concrete repair materials, masonry substrates and wood/plywood substrates.

> **Pro Primer W** by Siplast; Irving, TX

2. PMMA Primer for Asphaltic Substrates: A two component, fast-curing, PMMA based primer for use over asphaltic materials.

> **Pro Primer R** by Siplast; Irving, TX

D. CAULKING/SEALANTS CAULKING/SEALANTS. A single component, high performance, elastomeric sealant conforming to ASTM D 232, ASTM C 920, or ASTM C 920. Acceptable types are as follows: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Siplast PS-715 Elastomeric Sealant by Siplast, Inc.; Irving, TX
2. Siplast PS 209 Elastomeric Sealant by Siplast, Inc.; Irving, TX

E. Preparation Paste: A multi-component, fast curing, PMMA based paste used for remediation of depressions in substrate surfaces or other irregularities.

> **Pro Paste Resin** by Siplast; Irving, TX

PART 3 EXECUTION

3.01 PREPARATION

A. GENERAL. Sweep or vacuum all surfaces, removing all loose aggregate and foreign substances prior to commencement of roofing.

B. REMOVE ALL EXISTING:

- Wet, disbanded ply layers
- Protection layers
- Stone Ballast and Pavers
- Base flashings
- Edge metal

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- Flanged metal flashings
- Cants, wood blocking
- Walkways
- Non functional penetrations/curbs
- Drain assemblies
- Metal trim, etc.

3.02 SUBSTRATE PREPARATION

- A. PREPARATION OF SURFACE. Prime the concrete deck using **PA-917LS Primer** at the rate of 1 gallon per 100 square feet of surface. **Alternatively, torch-priming will be accepted.**

3.03 ROOF MEMBRANE INSTALLATION

- A. MEMBRANE APPLICATION. Apply roofing in accordance with roofing system manufacturer's instructions and the following requirements. Application of roofing membrane components shall immediately follow application of base sheet and/or insulation as a continuous operation.
- B. AESTHETIC CONSIDERATIONS. An aesthetically pleasing overall appearance of the finished roof application is a standard requirement for this project. Make necessary preparations, utilize recommended application techniques, apply the specified materials (i.e. granules, metallic powder, etc.), and exercise care in ensuring that the finished application is acceptable to the Owner.
- C. PRIMING. Prime metal flanges (all jacks, edge metal, lead drain flashings, etc.) and concrete and masonry surfaces with a uniform coating of ASTM D 41 asphalt primer.
- D. BITUMEN CONSISTENCY. Cutting or alterations of bitumen, primer, and sealants will not be permitted.
- E. ROOFING APPLICATION. Apply all layers of roofing free of wrinkles, creases or fishmouths. Exert sufficient pressure on the roll during application to ensure prevention of air pockets. Stagger the lap seams between the base ply layer and the finish ply layer.
1. Apply all layers of roofing perpendicular to the slope of the deck.
 2. Fully bond the base ply to the prepared substrate, utilizing minimum 3-inch side and end laps. Apply each sheet directly behind the torch applicator. Stagger end laps a minimum of 3-feet.

3. Fully bond the finish ply to the base ply, utilizing minimum 3-inch side and end laps. Apply each sheet directly behind the torch applicator. Stagger end laps of the finish ply a minimum 3-feet. Stagger side laps of the finish ply a minimum 12-inches from side laps in the underlying base ply. Stagger end laps of the finish ply a minimum 3-feet from end laps in the underlying base ply.

4. Maximum sheet lengths and special fastening of the specified roof membrane system may be required at various slope increments where the roof deck slope exceeds ½-inch per foot. The

manufacturer shall provide acceptable sheet lengths and the required fastening schedule for all roofing sheet applications to applicable roof slopes.

- F. Flashing Application - Masonry Surfaces: Flash masonry parapet walls and curbs using the reinforcing sheet and the metal foil flashing membrane. After the base ply has been applied to the top of the cant, fully adhere the reinforcing sheet, utilizing minimum 3-inch side laps and extend a minimum of 3-inches onto the base ply surface and 3-inches up the parapet wall above the cant. After the final roofing ply has been applied to the top of the cant, prepare the surface area that is to receive flashing coverage by torch heating granular surfaces or by application of asphalt primer; allowing primer to dry thoroughly. Torch apply the metal foil-faced flashing into place using 3-foot widths (cut off the end of roll) always lapping the factory selvage edge. Stagger the laps of the metal foil flashing layer from lap seams in the reinforcing layer. Extend the flashing sheet a minimum of 4-inches beyond the toe of the cant onto the prepared surface of the finished roof and up the wall to the desired flashing height. Exert pressure on the flashing sheet during application to ensure complete contact with the wall/roof surfaces, preventing air pockets; this can be accomplished by using a damp sponge or shop rag. Check and seal all loose laps and edges. Nail the top edge of the flashing on 9-inch centers. (See manufacturer's schematic for visual interpretation).

- G. FLASHING APPLICATION -MIXING OF RESIN PRODUCTS. Preparation/Mixing/Catalyzing Resin Products: Pour the desired quantity of resin into a clean container and using a spiral mixer or mixing paddle, stir the liquid for the time period specified by the resin manufacturer. Calculate the amount of catalyst powder needed using the manufacturers guidelines and add the pre-measured catalyst to the primer. Mix again for the time period specified by the resin manufacturer, ensuring that the product is free from swirls and bubbles. It is imperative that air is not entrained into the product during the mixing process. To avoid aeration, do not use a spiral mixer unless the spiral section of the mixer can be fully contained in the liquid during the mixing process. Mix only enough product to ensure that it can be applied before expiration of resin pot life.

H. REINFORCED FLUID APPLIED PMMA FLASHING APPLICATION

1. Using masking tape, mask the perimeter of the area to receive the flashing system. Apply resin primer to substrates requiring additional preparation and allow primer to set. Prepare surface of

Teranap finish ply to receive fluid applied flashing by removing protective polyester resin with open flame torch.

2. Pre-cut fleece to ensure a proper fit at transitions and corners prior to membrane application.

 3. Apply an even, generous base coat of flashing resin using a roller at the rate of 19 kg/sq (2.0 kg/m²) to prepared surfaces requiring flashing coverage. Work the fleece into the wet, catalyzed resin using a brush or roller to fully embed the fleece in the resin and remove trapped air. Lap fleece layers a minimum of 2-inches (5 cm) and apply an additional coat of catalyzed resin between layers of overlapping fleece. Again using a roller, apply an even top coat of catalyzed resin at the rate of 12 kg/sq (1.3 kg/m²) immediately following embedment of the fleece, ensuring full saturation of the fleece. Ensure that the flashing resin is applied to extend a ¼- inch (6 mm) beyond the fleece. Remove the tape before the catalyzed resin sets. Make allowances for saturation of roller covers and application equipment.

 4. Should work be interrupted for more than 12 hours or the surface of the catalyzed resin becomes dirty or contaminated by the elements, wipe the surface to be lapped with new flashing resin using the specified cleaner/solvent. Allow the surface to dry for a minimum 20 minutes and a maximum 60 minutes before continuing work.
- I. WATER CUT-OFF. At end of day's work, or when precipitation is imminent, construct a water cut-off at all open edges. Cut-offs can be built using asphalt or plastic cement and roofing felts, constructed to withstand protracted periods of service. Cut-offs must be completely removed prior to the resumption of roofing.

3.04 ROOF SYSTEM INTERFACE WITH RELATED COMPONENTS

The following is a list of verbal descriptions for correct installation of components integrated into the roof membrane assembly. In all cases, unless otherwise approved, incorporate flanged components into the system between the application of the base ply and the finish ply. The flange must be primed with a uniform coating of approved ASTM D 41 asphalt primer and allowed to dry thoroughly; all flanges must be set in approved mastic.

- A. EDGE METAL. Completely prime metal flanges and allow to dry prior to installation. Turn the base ply down 2-inches past the roof edge and over the nailer. After the base ply and continuous cleat (if applicable) have been installed, set the flange in mastic and stagger nail every 3-inches on center. Strip-in the flange using the stripping-ply material, extending a minimum of 4-inches beyond the edge of the flange. Terminate the finish ply at the gravel-stop rise of the edge metal. SEE ITEM: SEALANT, for finish of this detail.

- B. SEALANT. Caulk all exposed finish ply edges at gravel stops, waste stacks, pitch pans, vent stacks, etc..., with a smooth continuous bead of approved sealant.

3.05 MEMBRANE PROTECTION - APPLICATION

* NOTE: The roof membrane system must be inspected by the manufacturer's representative prior to installation of the protection system. The manufacturer's representative will compile required punchlist items indicating any deficiencies in the roof membrane and flashing membrane system that shall be corrected before the installation will be accepted.

- A. GENERAL. All application of roofing, detailing, shall be completed; all surfaces shall be clean, free of debris, etc.
- B. MEMBRANE PROTECTION LAYER. Place the specified drainage mat unadhered directly over all areas of the newly applied membrane, extending to walls, curbs, and other related junctures. Lap the factory applied selvage side and end.
- C. INSULATION. Re-install of the existing insulation directly over the membrane protection layer, in strict accordance with the insulation manufacturer's requirements and the following recommendations.
1. All end joints must be staggered.
 2. Install the panels to fit tightly; leaving a maximum acceptable opening between panels of three-eighths (3/8) inch.
 3. Closely abut walls, penetrations and projections with the panels; leave a maximum opening between insulation panels and projections of three-quarter (3/4) inch.
 4. Where insulation is installed in multi-layer configurations, use the following modifications.
 - a) The bottom layer must be a minimum two (2) inches in thickness;
 - b) The lower layer must be the thickest;
 - c) Stagger all joints in relation to underlying layers;

d) Install all layers unadhered.

D. FILTER FABRIC. Place the specified filter fabric unadhered directly over the insulation. Wetting the fabric helps secure it until the ballast or pavers can be installed.

1. Overlap edges and ends of the fabric a minimum of one (1) foot.
2. Extend the fabric a minimum three (3) inches above the stone/gravel ballast at all penetrations with the exception of drains.
3. Do not lap the fabric within six (6) feet of the roof perimeter.

E. PAVERS. Re-install existing pavers to match existing layout.

3.06 FIELD QUALITY CONTROL AND INSPECTIONS

A. SITE CONDITION. Leave all areas around job site free of debris, roofing materials, equipment and related items after completion of job.

B. NOTIFICATION OF COMPLETION. Notify the manufacturer by means of manufacturer's printed Notification of Completion form of job completion in order to schedule a final inspection date.

C. FINAL INSPECTION

1. POST-INSTALLATION MEETING. Hold a meeting at the completion of the project, attended by all parties that were present at the pre-job conference. A punch list of items required for completion shall be compiled by the Architect, Consultant and the manufacturer's representative. Complete, sign, and mail the punch list form to the manufacturer's headquarters.
2. DRAIN VERIFICATION. At final inspection of all work, verify that all drains, scuppers, etc., are functioning properly. Ensure that roof drains have adequate strainers.

D. ISSUANCE OF THE GUARANTEE. Complete all post installation procedures and meet the manufacturer's final endorsement for issuance of the specified guarantee.

SHEET METAL FLASHINGS & ACCESSORIES

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Work of this section shall be governed by the Contract Documents. Provide materials, labor, equipment, and services necessary to furnish, deliver, and install all work of this section as shown on the drawings, as specified herein, and/or as required by the job conditions.

1.02 DESCRIPTION OF WORK

- A. Roof related sheet metal work, including cap-flashings, hook strips, fascia, gravel stops, and other miscellaneous flashings.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Rough Carpentry (wood blocking)
- B. MODIFIED BITUMEN MEMBRANE ROOFING

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: provide primary products, including each type of flashing and accessory, produced by a single Manufacturer, which has produced that type product successfully for not less than 5 years. Provide secondary products only as recommended by the Manufacturer of the primary products.
- B. Installer Qualifications:
 - 1. A firm (Installer) with not less than 5 years of successful experience installing sheet metal items similar to those required for this project, employing personnel skilled in the work specified.
 - 2. The Installer shall provide a list of at least five completed projects of comparable size and similar design, within a fifty mile radius of this project, which may be observed by representatives of the Owner.
 - 3. The Installer shall directly employ the personnel performing the work of this section.
- C. Installer's Field Supervision: When the sheet metal work is in progress, maintain a full time supervisor-foreman on the roof who has a minimum of 5 years experience in roof related sheet metal work.
- D. Attend the Pre-roofing conference and review methods and procedures related to sheet metal work, including but not limited to the following:

1. How the application of sheet metal items will be coordinated with the installation of wood blocking, roofing & flashing materials, insulation, and other similar items to provide a watertight installation.
2. Commercial practice and the Manufacturer's instructions for handling and installing their materials.
3. The condition of sheet metal substrates, curbs, penetrations and other preparatory work needed and/or performed by other trades.
4. The schedule for mock-up construction and approval.
5. The construction schedule: availability of sheet metal materials, personnel, equipment and facilities needed to make progress and avoid delays.
6. Weather and forecasted weather conditions, and procedures for coping with unfavorable weather conditions.

1.05 SUBMITTALS

- A. Shop drawings which show each sheet metal item and how it relates to the wood blocking, roof membrane, stripping, and flashings.
- B. 6"x6" square of each type of sheet metal to show surface finish, texture and color.
- C. Technical literature for each type of sheet metal, adhesive, sealant, etc.
- D. Samples of each type of fastener.
- E. Manufacturer's technical literature and shop drawings for preformed sheet metal items, which show how to install the item, form and seal joints.
- F. A sample of the Contractor's guarantee form.
- G. Material Safety Data Sheets.

1.06 MOCK-UPS

- A. Prepare in actual job locations mock-ups of cap flashings, hook strips, fascia, gravel stops, and all other items of sheet metal and related work, for the inspection and approval of the Architect.
- B. Construct each mock-up of two full lengths of metal, fully fastened, connected and stripped-in to the related roofing system, to show the following:
 1. Type, gauge, color, cross-sectional dimensions and shape, and joint and mitering techniques.
 2. Wood blocking, and attachment techniques and fasteners for all wood and metal components.
 3. Masonry cutting and restoration.
 4. Other sheet metal related materials and their installation techniques to fully define the detailing of each mock-up.
- C. The purpose of each mock-up is to establish minimum standards of materials and workmanship and to assure that completed installations based on the mock-up will be fully functional and will serve the purpose for which they have been designed.

D. Approved mock-ups may be left in place and incorporated into the permanent installation. Rejected mock-ups shall be removed and replaced until approved.

E. Do not purchase or fabricate sheet metal items until mock-up erection, inspection and approval are completed and approval is documented in writing.

1.07 GUARANTEE

A. Provide a Contractor's written Guarantee which warrants that all work will remain free of material and workmanship defects and in a watertight condition for a five-year period beginning upon Final Completion.

B. The Guarantee shall provide that in the event the work installed fails to so perform, the Contractor at his own expense will make the repairs and modifications necessary to enable the work to perform as warranted.

C. The Guarantee shall include the removal and replacement of items or materials installed with sheet metal flashings and accessories as part of the original work, if removal is needed to effect guaranteed repairs.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Copper sheet: conform to ASTM B370, 99.0% pure copper, thickness 16-ounces per square foot.

B. Aluminum copings, hook strips, gravel stops and miscellaneous trim: #3105-H14 alloy aluminum, minimum thickness .040 inches, factory finished with baked enamel finish in standard color selected by Architect.

C. Fasteners: fasten hook-strip and coping with Zamac nail-in fasteners with stainless-steel pins, 18" on center. Rivets shall match the base metal being fastened.

D. Sealant: high performance, low modulus, one-component, moisture curing modified polyurethane, which meets ASTM C-920 type S Grade NS class 25, equal to Sonneborne NP-1, color as selected by Architect.

PART 3 – EXECUTION

3.1 GENERAL

A. Accurately reproduce the detail and design shown, and form profiles, bends and intersections, shapes, true and even. Fabricate sheet metal in the shop whenever possible, and form joints, laps, splices and connections to shed water and condensation in the direction of flow.

B. Provide miscellaneous flashing and sheet metal work not shown on the drawings but otherwise needed to leave the project complete and entirely watertight, neatly and carefully executed in a thorough and workmanlike manner.

3.2 INSPECTION

A. Examine surface to receive work of this section and report to the Architect any defects affecting installation. Commencement of work will be construed as complete acceptance of surfaces.

3.3 INSTALLATION

A. Fabricate and install metal work in accordance with SMACNA or NRCA published standards and manufacturer's instructions, unless otherwise indicated.

B. Securely fasten and anchor all work, and make provisions for thermal expansion. Submit details of expansion joints for approval. Install fasteners through one edge of metal only.

3.4 CAP FLASHINGS

A. Fabricate cap-flashings from 16-oz. plain copper, per detail section drawings.

B. Cut reglets minimum 1½" deep, following mortar joint.

C. Secure cap-flashing in reglets with lead wedges 12" on center.

D. Overlap joints minimum 3" and rivet as needed to keep flashing tight to wall.

E. Solder all horizontal joints.

F. Fill reglet with one-part urethane caulking; submit color sample for approval prior to installation.

3.5 CLEANING

A. Clean all metal of any stains or blemishes; touch up and clean prefinished material after roofing is complete. Leave all surfaces clean and satisfactory to the Owner.

END OF SECTION

SECTION 08620
PLASTIC GLAZED UNIT SKYLIGHTS -EcoSky, Curb Mount

PART 1-GENERAL

1. SUMMARY

- A. This section includes the following:
1. Curb-mounted plastic unit skylights.
 - a. CEC3 model standard triple dome configuration.

2. PERFORMANCE REQUIREMENTS

- A. General: Provide unit skylights capable of withstanding loads as prescribed by the prevailing code for the project location.
- B. Unit skylights must be tested in accordance with AAMA\WDMA\CSA\101\I.S.2\A440 as required by Section 2405.5 of the International Building Code.
- C. Unit skylights must be tested and certified by NFRC for thermal performance. Products must be listed on the NFRC Certified Products directory.
- D. System Performance Requirements:
1. Triple dome models:
 - i. U-factor shall be .46 BTU/HR-ft²-F maximum per NFRC 100
 - ii. SatinSky2/Clear/Clear:
 1. SHGC shall be .37 per NFRC 200
 2. Visible light transmission shall be 49% per ASTM E972
 - iii. SatinSky2/Clear/SatinIce853:
 1. SHGC shall be .35 per NFRC 200
 2. Visible light transmission shall be 46% per ASTM E972

1.3 SUBMITTALS

- A. Product Data Sheet: For each type of skylight specified, include details of construction and installation, relative to applicable roofing materials.

- B. Samples for Selection: Manufacturer's color charts showing a full range of colors available for each type of skylight glazing and aluminum finish.

4. QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: Provide Thermoformed domes fabricated from sheets identical to those tested for the following fire-test-response characteristics, per ASTM test method indicated below, by UL or other testing and inspecting agencies acceptable to authorities having jurisdiction. Identify plastic sheets with appropriate markings of applicable testing and inspecting organization.
1. Self-Ignition Temperature: 651 deg F (343 deg C) or greater when tested per ASTM D 1929 on plastic sheets in the thickness intended for use.
 2. Smoke density of 75 or less when tested per ASTM D 2843 on plastic sheets in the thickness intended for use.
 3. Relative- Burning Characteristics: As follows, when tested per ASTM D 635:
 - a. Class CC2 Burning rate of 2.5 inches (64 mm) per minute or less when tested on plastic glazing indicated above with a nominal thickness of 0.060 inch (1.5 mm) or the thickness intended for use.

5. WARRANTY

- A. General: Warranties specified in this section shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.
- B. Skylight Warranty: Provide written warranty signed by manufacturer, agreeing to repair or replace work that exhibits defects in materials or workmanship and guaranteeing weather-tight and leak-free performance. "Defects" is defined as uncontrolled leakage of water and abnormal aging or deterioration.
1. Warranty Period: 5 years from date of Substantial Completion.
- C. Plastic Warranty: Provide written warranty signed by manufacturer agreeing to repair or replace work that has or develops defects in the plastic. "Defects" is defined as abnormal aging or deterioration.
1. Warranty Period: years from date of Substantial Completion against yellowing or breakage.
- D. Finish Warranty: Provide written warranty signed by manufacturer agreeing to repair or replace work with finish defects. "Defects" is defined as peeling, chipping, chalking, fading, abnormal aging or deterioration, and failure to perform as required.
1. Warranty Period for Anodized Finish: 5 year from date of shipment from the manufacturer.
 2. Warranty Period for 2604 Powder Finish: 10 years from date of shipment from the manufacturer.
 3. Warranty Period for 2605 Liquid Finish: 10 years from date of shipment from the manufacturer. (20 years available if specified).

4. Warranty Period for 2605 Powder Finish: 20 years from the date of shipment from the manufacturer.

PART 2- PRODUCTS

1. MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by Wasco Skylights part of the Velux Group, Wells, ME (800-388-0293).
- B. Substitutions: Manufactures shall not be considered without prior approval in writing no later than ten (10) calendar days prior to bid. Substitute manufacturers must have been in the custom skylight business for not less than a period of 15 years and must submit to the Architect the following:
 1. List of similar projects successfully completed within the last five years.
 2. Proof of financial capability.
 3. Complete details of proposed skylight.
 4. Complete specifications for Architect's review.
 5. Test reports showing units have been tested with NFRC
 6. NFRC Certified Products Directory (CPD#) number.

2. MATERIALS

- A. Curb Frame: High performance PVC with minimum effective thickness of 0.060 inch (1.5mm). Provide integral condensation gutter system with corners fully welded for waterproof quality.
- B. Retainer Frame: Extruded aluminum alloy 6063-T5 (min). ASTM B 221 (ASTM B 221 M) with minimum effective thickness of 0.60 inch (1.5 mm).
- C. Plastic Sheets: Monolithic, formable, transparent (colorless) or translucent (white) sheets with good weather resistant.
- D. Thermal Break: Fabricate skylight units with thermal chambered PVC.
- E. Gaskets: Structural glazing tape to form adhesive bond between PVC curb and inner dome and between inner and outer dome. Butyl tape between outer dome and extruded aluminum retainer. Gaskets form an air and water impenetrable barrier between adjacent surfaces.
- F. Fasteners: Same metal as metals being fastened, or nonmagnetic stainless steel or other non-corrosive metal as recommended by manufacturer.

3. PLASTIC SKYLIGHT UNITS

- A. General: Factory-assembled, curb-mounted unit consisting of plastic glazing, gasketing, inner frame designed to mount on separate curb, and self-contained flashing.
 1. Products: Provide EcoSky model, [CEC3], meeting the requirements of this section.

- B. Condensation Control: Fabricate skylight units with integral internal gutters and weeps to collect and dispose of condensation.
- C. Thermal Break: Fabricate skylight units with thermal chambered PVC.
- D. Shape and Size: As indicated by model number.

- E. Outer Glazing: [Dome] or [Pyramid] thermoformed:
 - a. Acrylic: Acrylite® Satin Sky 2 translucent.
- F. Middle Glazing (for triple domes only): Thermoformed Dome
 - a. Acrylic: Clear.
- G. Inner Glazing: Thermoformed Dome:
 - a. Acrylic [Clear], [SatinIce853 translucent]

4. FABRICATION

- A. Framing Components: As follows:
 - 1. Factory fit and assemble components.
 - 2. Fabricate components to drain condensation and moisture occurring or migrating within skylight system to the exterior.
 - 3. Fabricate components to accommodate expansion, contraction, and field adjustment, and to provide for minimum clearance and shimming at skylight perimeter.
 - 4. Fabricate components to ensure that glazing is thermally and physically isolated from framing members.
 - 5. Fit and secure joints in aluminum by heliarc welding.

5. ALUMINUM FINISHES FOR GLAZING RETAINER

- A. General: Comply with NAAMM “Metal Finishes Manual” recommendations for application and designations of finishes.
- B. Finish designations prefixed by AA conform to the system for designations of aluminum finishes established by the Aluminum Association.
 - 1. Mill Finish: Manufacturer’s standard mill finish.

PART 3- EXECUTION

1. EXAMINATION

- A. Examine substrates and conditions, with installer present, for compliance with requirements for installation tolerances and other conditions affecting skylight performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

2. INSTALLATION

- A. General: Comply with manufacturer's written instructions for protecting, handling, and installing skylight components.
- B. Coordinate with installation of roof deck and other substrates to receive skylight units.
- C. Coordinate with installation of vapor barriers, roof insulation, roofing, and flashing as required to assure that each element of the work performs properly and that combined elements are waterproof and weather tight. Anchor units securely to supporting structural substrates, adequate to withstand lateral and thermal stresses as well as inward and outward loading pressures.
- D. Counter Flashing: Where counter flashing is required as a component of the skylight, install to provide an adequate waterproof overlap with roofing or roof flashing (as counter flashing). Seal with thick bead of mastic sealant, except where overlap is indicated to be left open for ventilation.

3. CLEANING AND PROTECTION

- A. Clean exposed metal and plastic surfaces according to manufacturer's instructions. Touch up damaged metal coatings.
- B. Clean plastic skylight units, inside and out, not more than 5 days prior to date of substantial completion.

END OF SECTION