

Invitation to Bid

Project Manual for SPC#06-14-15

**LA, ROOF RESTORATION  
LANGUAGE ARTS BUILDING  
CLEARWATER CAMPUS**

13805 58<sup>TH</sup>, Street North Largo,

Florida 33765

February 16, 2015

**St. Petersburg College**

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**SPC**

**Owner:** St. Petersburg College

14025 58<sup>th</sup> Street North  
Clearwater, FL 33760

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**ST. PETERSBURG COLLEGE**  
**INVITATION TO BID, SPC PROJECT SPC# 06-14-15**  
**LA, ROOF RESTORATION, LANGUAGE ARTS BUILDING**  
**CLEARWATER CAMPUS 2465 DREW STREET, CLEARWATER, FL 33765**

**THIS IS NOT AN ORDER**

**DATE ISSUED: Monday, February 16, 2015**

**TO BE OPENED PUBLICLY AT 2:30 P.M.**

**Tuesday, March 17th, 2015**

St. Petersburg College Services Building-Epicenter, 14025 58<sup>th</sup> Street North  
Clearwater, Florida 33760-3768, Conference Room #217

**GENERAL SPECIFICATIONS**

**1. SEALED BIDS:** Must be in the Facilities Services Department by the date and time specified. Bids may be **hand delivered** to the Facilities Services Department, Room 252, St. Petersburg College, Services Building-Epicenter, 14025 58<sup>th</sup> Street North, Clearwater, Florida 33760-3768 **or mailed** to the Director of Facilities Services, St. Petersburg College, P. O. Box 13489, St. Petersburg, Florida 33733-3489. **If you use an express (overnight) delivery service, do not use the Post Office Box. Direct your delivery to the street address above.** St. Petersburg College accepts no responsibility for late or misdirected mail deliveries.

**2. RESPONSE ENVELOPES:** The envelope containing your bid response should contain the following information prominently stated on the front:

**LA, Roof Restoration, Language Arts Building**  
**Clearwater Campus**  
**SPC Project SPC#06-14-15**

**Due: 2:00 P.M., Tuesday, March 17th, 2015**

**3. PREPARATION OF BIDS:** All information shall be printed in ink, typewritten, or produced by computer. Mistakes may be crossed out and corrections inserted before submission of your bid. Corrections shall be initialed in ink by the person signing the bid. St. Petersburg College will not be responsible for errors or omissions made by the Contractor in determining the bid price to the College.

Corrections and/or modifications received after the due date and time specified will not be accepted. **It is mandatory that all bids are manually signed by an authorized officer of the Contractor.**

**4. PRE-BID MEETING:** A **Mandatory** pre-bid meeting will be held at 10:00A.M. on Thursday, March 5, 2015, at the Clearwater Campus, Central Utilities / Maintenance Building, Maintenance Break Room, MA 105C, located at 2465 Drew Street, Clearwater, FL. **Attendance at the Pre-bid Meeting is Mandatory.**

Any person(s) requiring reasonable accommodations, in accordance with the provisions of the Americans with Disabilities Act, for attendance at the scheduled bid opening, must contact Facilities Services Department at 727-341-3378 at least 72-hours in advance of your planned attendance.

**5. BONDING REQUIREMENTS:** Bidders are required to provide letter indicating ability to Bond the project as per Florida Statute FS 255.05, for projects exceeding \$200,000.00.

**6. AWARD:** A decision by the College regarding a bid award will be made after determining what is the lowest price and in the best interest of the College. The College reserves the right to reject any or all bids and to waive any technicalities or informalities in bids received. **The College reserves the right at any time, including before or after the notice of an award, to withdraw this Invitation to Bid if so doing is deemed to be in the best interests of the College.** Notice of award shall be posted online at the Purchasing Department webpage <http://www.spcollege.edu/purchasing>.

**7. BID REJECTION:** No bid shall be considered if the bidder fails to comply with the terms and conditions of the bid form, fails to meet minimum qualifications as detailed in the Contractors Qualification Statement, or the procedure for submitting bids as authorized in official advertisement and other documents pertaining to the bidding as authorized by the Board of Trustees or its designee.

**8. PROTEST: Specifications**—With respect to a protest of the terms, conditions, and specifications contained in the Invitation to Bid, the notice of protest shall be filed writing within 72 hours after the posting of the Invitation to Bid. A formal written protest shall be filed within 10 days after the date the notice of protest is filed. Failure to file a notice of protest or failure to file a formal written protest within the time prescribed in section 120.57(3), Florida Statutes, shall constitute a waiver of proceedings under Chapter 120, Florida Statutes.

**9. PROTEST: Intended Decision-** A notice of intended decision for a proposal award will be electronically posted on the Purchasing Department website at <http://www.spcollege.edu/purchasing>. Any person who is adversely affected by the intended decision shall file a notice of

Statutes, shall constitute a waiver of proceedings under Chapter 120, Florida Statutes.

**9. PROTEST: Intended Decision-** A notice of intended decision for a proposal award will be electronically posted on the Purchasing Department website at <http://www.spcollege.edu/purchasing>. Any person who is adversely affected by the intended decision shall file a notice of protest within 72 hours after the posting of the notice of intended decision. The formal written protest shall be filed within 10 days after the notice of protest is filed. Failure to file a protest within the time prescribed in section 120.57(3), Florida Statutes, or failure to post the bond or other security required by law within the time allowed for filing a bond shall constitute a waiver of proceedings under chapter 120, Florida Statutes.

**10. QUALIFICATION OF BIDDER:** In order to be qualified to bid, all bidders must meet minimum qualifications as detailed in Contractors Qualification Statement on pages 40-41. Verification of the qualifications and subsequent bid rejection based on insufficient qualifications shall be made at the sole discretion of the owner.

**11. REGISTRATION:** Bidders need to officially register with the College's Purchasing Department. Bidders can register by obtain the Vendor's Registration Form online at <http://www.spcollege.edu/purchasing>. The College shall not be responsible for providing addendums to bidders who do not register with the College. Failure to register as a prospective bidder may cause your bid to be rejected as non-responsive if you have submitted a proposal without an addendum acknowledgement for the most current and/or final addendum.

Failure to register as a prospective bidder may cause your bid to be rejected as non-responsive if you have submitted a proposal without an addendum acknowledgement for the most current and/or final addendum.

**12. QUESTIONS:** If you have questions about the terms, conditions and/or specifications, email them to Rafael Martinez, Facilities Project Coordinator, at [martinez.rafael@spcollege.edu](mailto:martinez.rafael@spcollege.edu).

**13. ADDENDA:** In the case of a project related question or changes to the specifications or conditions, an addenda shall be posted online at <http://www.spcollege.edu/purchasing>. Copies of Addenda will be made available for inspection and kept on file at the Facilities Services Department. No addenda will be issued later than two (2) business days prior to the date for receipt of Bids. Each Bidder shall ascertain prior to submitting his bid that he has received all Addenda issued, and he shall acknowledge their receipt in his Bid.

**14. CLARIFICATIONS:** The College reserves the right to request clarification of information submitted and to request additional information of one or more bidders if needed.

**15. SCHEDULE:** Since St. Petersburg College intends to continue classes and occupy the

Sundays, legal holidays and college closures at no additional cost to Owner. The bidder must acknowledge that any work disrupting the continuous occupancy or causing disruption/disturbance of any classes/spaces will not be permitted.

**16. TIME OF COMPLETION:** All of the work shall be substantially completed within the 60 days after receipt of Purchase Order. Overtime cost to perform any work after regular hours or on Saturdays, Sundays, legal holidays and college closures made necessary to meet the required time schedule or as required to work around class schedules and to ensure that classes are not disrupted or disturbed, shall be at the expense of the Contractor(s) and/or sub-contractor(s). It is hereby understood and mutually agreed, that the contract time as stipulated by the Bid Documents constitutes a reasonable time period in which to complete the work and achieve a state of substantial completion, final completion, and Owner occupancy for the project, and that, at the end of such time, the entire project shall be completed and ready for unrestricted use by Owner.

**17. SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES:** Shop drawings, product data and samples shall be dated and contain: name of project, description or names of equipment, materials and items, and complete identification of locations at which materials or equipment are to be installed. Contractor shall highlight and reference product data and shop drawings for ease of review. Contractor shall verify and coordinate the information contained within such submittals with the requirements of the work and of the contract documents. The shop drawings shall be reviewed by the College and the College's representative. Failure to do any of the above shall result in rejection of the product data, shop drawing, and sample.

**18.** The Contractor shall be fully responsible for any and all damage to property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, irrigation system, television cable system, telephone cable system, fiber optic system, computer network system, fire alarm system, emergency lighting system and emergency power generating system and utilities not designated for removal or replacement in the course of construction, whether or not it was shown on drawings or whether or not it was identified and located by College personnel.

**19. PERMITS:** All work must comply with the Florida Building Code. All work shall be permitted and inspected through the St. Petersburg College Building Code Official. The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the contract.

**20. FIRM BIDS:** Any bid may be withdrawn until the date and time set for the submission of the bids. Any bid not so withdrawn shall constitute an irrevocable offer, for a period of ninety (90) days, to sell the College the products/services set forth in these specifications, or until one or more of the other bids have been awarded.

**21. ASSIGNMENTS:** The successful Contractor shall not assign any interest in the bid and/or contract and shall not transfer any interest in the same without prior written consent of the College.

**22. SCHEDULED PAYMENTS:** Partial payment request shall be granted upon percentage of completion as scheduled set and agreed upon by the College and the Contractor. Upon substantial completion of the Work under this Contract and before final payment will be issued; the Contractor shall deliver to the College the following:

1. Preparation of punch list by the Contractor. The Contractor, along with his subcontractors, shall make an inspection of the new roof and prepare his own punch list of all items to be corrected and completed prior to requesting Final Payment.
2. Correction of all punch list item by Contractor and his subcontractors shall take place prior to requesting a final walkthrough inspection by the Owner.
3. The Owner, Owner's representatives and the Contractor shall then provide a final walkthrough inspection of the new roof areas and prepare the Owner's final punch list for the Contractor and his subcontractors to complete prior to receiving release of retainage and Final Payment.

**23. PUBLIC ENTITY CRIMES:** A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid/bid on a contract to provide any goods or services to a public entity (the College is a political subdivision of the State of Florida), may not submit a bid on a contract with a public entity for the construction or repair of a public building or a public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of \$25,000.00 for a period of 36 months from the date of being placed on the convicted vendor list.

**24. LEGAL REQUIREMENTS:** Applicable provisions of all federal, state, county and local laws and of all ordinances, rules and regulations shall govern development, submittal and evaluation of all bids received in response hereto and shall govern any and all claims and disputes which may arise between person(s) submitting a bid response hereto and the College by and through its officers, employees and authorized representatives, or any other person, natural or otherwise; and a lack of knowledge by any bidder shall not constitute a cognizable defense against the legal effect thereof. The laws of the State of Florida shall govern any contract resulting from this bid.

**25. DISCRIMINATORY VENDOR'S LIST:** An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid on a contract to provide goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not award or perform work as a Contractor, supplier, subcontractor,

or consultant under any contract with any public entity, and may not transact business with any public entity.

**26. IDENTICAL OR TIE BIDS:** In the event two (2) or more bids are tied the following criteria, in order of importance, shall be used to break said tie: (1) Drug Free Work Place Certification, (2) Florida Respondents, (3) or Bidder's place of business is within Pinellas County.

**27. CONFLICT OF INTEREST:** Any award hereunder is subject to Chapter 112, Florida Statutes, regarding conflict of interest. All vendors submitting a bid/proposal must disclose the name of any officer, director, trustee, or agent who is also an employee of the State of Florida or any of its agencies or political subdivisions (the College is a political subdivision of the State). All vendors submitting a bid/proposal must disclose the name of any College employee or employee's spouse or child who is an officer, partner, director, or proprietor or in which such officer or employee or the officer's or employee's spouse or child, or any combination of them, who has an interest in 5% or more in the vendor's firm or any of its branches or dealerships. In accordance with Section 112.313(3), Florida Statutes, no College officer or employee acting in a private capacity may rent, lease, or sell any realty, goods or services to the College, unless the transaction is otherwise exempted under Section 112.313(12), Florida Statutes. Therefore, any vendor who is a College employee or who has an interest in the vendor's firm, and the transaction is not otherwise exempted, cannot contract with the College to provide the services set forth in this Invitations to Bid.

**28. COLLUSION/DISCLOSURE** Anti-collusion statement must be signed and notarized in order to be considered for a bid. Vendor's bid must include a properly executed statement certifying that:

- 1) Vendor's proposal is made without previous understanding, agreement, or connection with any person, firm or corporation making a proposal for the same item(s) and is in all respects fair, without outside control, collusion, fraud, or otherwise illegal action; and
- 2) No member of vendor's ownership, management or staff has a vested interest in any aspect or department of the College.

**29. EQUAL OPPORTUNITY/EQUAL ACCESS:** All work on this project will be carried out in compliance with the College's commitment to the concept of equal opportunity; that is, there will be no discrimination on the basis of race, color, religion, sex, age national origin, marital status, or against any qualified person with a disability. Recognizing that sexual harassment constitutes discrimination on the basis of sex, the College shall not tolerate such conduct.



**30. INDEMNIFICATION:** To the fullest extent permitted by law, the bidder shall indemnify, hold harmless and defend the College, its Trustees, officers, agents, servants, and employees, or any of them, from and against all claims, damages, losses, and expenses including, but not limited to, attorneys' fees and other legal costs including but not limited to costs for paralegal, investigative, and legal support services, and the actual costs incurred for expert witness testimony, arising out of or resulting from the performance of services required under this Contract, provided that same is caused by the negligence, recklessness, or intentional wrongful conduct of the bidder or other person utilized by the bidder in the performance of the work. Nothing herein shall be deemed to affect the rights, privileges, and immunities of the College as set forth in Section 768.28, *Florida Statutes*.

**31. INSURANCE REQUIREMENTS:** The successful contractor shall supply the college with certificate(s) of insurance evidencing coverage during the period the vendor is providing services per the following:

Type of Policy Limits:

Workers Compensation/Statutory/If claiming exemption from workers' employers liability compensation requirements, proof of exemption or signed declaration must be provided.

Commercial General Liability occurrence To include products/completed operations, bodily injury, broad form property damage, and independent contractors (if applicable).	\$1,000,000 per
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Automobile Liability

Certificate showing proof of coverage.

To include all vehicles owned,  
leased hired, non-owned and  
employee non-owned vehicles.  
Individual contractors and  
Subcontractors will be required  
to show personal automobile  
liability in the absence of  
corporate coverage.

**ADDITIONAL COVERAGE REQUIREMENTS:** The Board of Trustees, St. Petersburg College shall be named as additional insured with regard to General Liability coverage. A copy of the endorsement

must be provided.

All coverage/certificate(s) to be in effect during the time the vendor is installing the equipment or providing a service on the College premises and must be provided to the College's Risk Management Coordinator within five (5) days of notification of bid award. In the event any binder is delivered, a certified copy of the policy or a Certificate of Insurance shall replace it within thirty (30) days in lieu thereof. Each such copy of a certificate shall contain a valid provision or endorsement that the policy may not be canceled, terminated, changed or modified without giving thirty (30) days written advance notice thereof to the College's representative. This Agreement may be subject to immediate termination, at the Colleges discretion, in the event that vendor fails to maintain or comply with any of the Insurance requirements set forth herein. Certificate(s) of insurance shall be executed on a standard ACCORD form **and signed** with the Certificate Holder listed as follows:

Board of Trustees  
St. Petersburg College  
14025 58th Street North  
Clearwater FL 33760

**32. VOLITILE AND HAZARDOAUS MATERIALS:** Volatile waste shall be stored in covered metal containers, and removed from the premises daily. Clean-up and disposal operations shall be conducted to comply with local ordinances and Anti-Pollution Laws. Burning or burying of rubbish and waste on the Site is not permitted. Disposal of volatile fluid waste in storm or sanitary sewer systems, or into streams or waterways is not permitted. Hazardous materials shall be stored and disposed of only as permitted by law and shall be properly and legally removed from the premises prior to the completion of the Contract.

**33. CLEANING DURING CONSTRUCTION:**

The Contractor shall oversee cleaning by all personnel and ensure that the building and grounds around the structure are maintained free from accumulations of waste materials. The premises shall be kept free from the accumulation of waste materials or rubbish at all times, which may require daily cleaning. The Contractor shall not, in any case, use the Owner's trash facilities.

**34. SITE SAFETY:** The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the contract.

**35. GOVERNING LAW/JURISDICTION:** This Agreement and all transactions governed by this Agreement shall be governed by and construed and enforced in accordance with the laws of the

State of Florida without regard to principles of conflicts of laws. In the event of any legal or equitable action arising from, growing out of or relate to this Agreement, the parties agree that the jurisdiction and venue of such action shall lie exclusively within the courts of record of the State of Florida located in Pinellas County, Florida, and the parties specifically waive any other jurisdiction and venue.

**36. RIGHT OF OFFSET:** The College shall be entitled to offset against any sums due the successful contractor for any expenses or costs incurred by the College, or damages assessed by the College concerning the successful contractor's non-conforming performance or failure to perform under the terms of the bid.

**38. ENERGY REBATE:** The Contractor shall be responsible for the submitting and attaining energy rebate available from Duke Energy for the College.

End of General Specifications

**ST. PETERSBURG COLLEGE**  
**INVITATION TO BID, SPC PROJECT SPC#06-14-15**  
**LA, ROOF RESTORATION, LANGUAGE ARTS BUILDING**  
**CLEARWATER CAMPUS 2465 DREW STREET, CLEARWATER, FL 33765**

**Technical Specifications**

- A. Project Summary:** Work shall include provision of new single ply roofing system and insulation panels above the existing gravel ballasted built up roof mechanically attached and single ply roofing system over existing modified bitumen built up roof areas mechanically attached as required to provide a new single ply roofing system by Dura-Last Roofing, Inc. for the LA, Language Arts Building, at the St. Petersburg College, Clearwater Campus.
- B. Roof Warranty Coverage:** The Contractor shall provide Dura-Last Roofing, Inc. commercial comprehensive 20 year warranty. The warranty shall be transferable and have no exclusions for ponding water, and provide coverage against damages that result from material defect and the authorized contractor's installation of Duro-Last products.
- C. Roof Monitoring for Moisture Content:** All new roofing operations should only occur after a minimum of two sequential dry days to allow the roof to dry thoroughly. All existing wet cupped or warped insulation board shall be replaced with new insulation board and mechanically attached as required to meet Code.

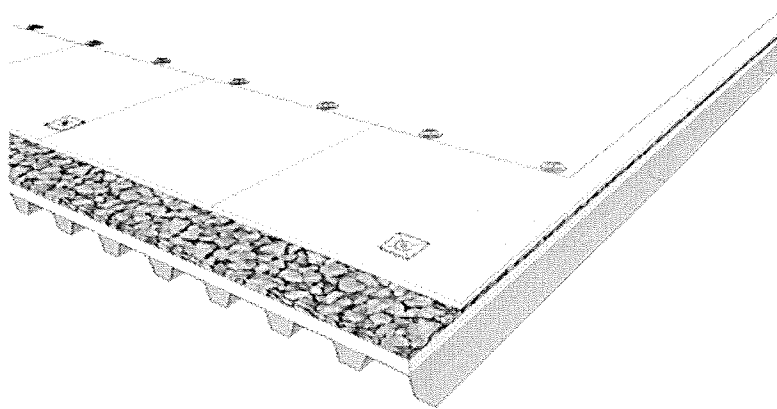
**SPC Drew Campus**

2465 Drew Street  
Clearwater, FL

LA Building

Prepared For: Rafael Martinez  
St. Pete College

Prepared By: Joey Weatherford  
Duro-Last Roofing



**Duro-Last Roof Assembly Description**

- **Duro-Last® PVC thermoplastic membrane**  
Membrane Thickness: 50 mil  
Color: White  
Attachment: Attached with mechanical fasteners
- **Duro-Guard® XPS Fan Fold - A**  
Thickness: 3/8 inch  
Attachment: Attached with mechanical fasteners
- **BUR: Gravel-Surfaced**
- **Steel Roof Deck**

## **PART 1 GENERAL**

### **1.1 SECTION INCLUDES**

- A. Overlay BUR: Gravel-Surfaced.
- B. Duro-Last® PVC thermoplastic membrane attached with mechanical fasteners.
- C. Duro-Guard® XPS Fan Fold - A, attached with mechanical fasteners.
- D. Prefabricated flashings, corners, parapets, stacks, vents, and related details.
- E. Fasteners, adhesives, and other accessories required for a complete roofing installation.
- F. Traffic Protection.

### **1.2 REFERENCES**

- A. NRCA - The NRCA Roofing and Waterproofing Manual.
- B. ASCE 7 - Minimum Design Loads For Buildings And Other Structures.
- C. UL - Roofing Materials and Systems Directory, Roofing Systems (TGFU.R10128).
- D. ASTM C 1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
- E. ASTM D 751 - Standard Test Methods for Coated Fabrics.
- F. ASTM D 4434 - Standard Specification for Poly(Vinyl Chloride) Sheet Roofing.
- G. ASTM E 108 - Standard Test Methods for Fire Tests of Roof Coverings.
- H. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

### **1.3 SYSTEM DESCRIPTION**

- A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing membrane manufacturer based on testing and field experience.
- C. Physical Properties:
  - 1. Roof product must meet the requirements of Type III PVC sheet roofing as defined by ASTM D 4434 and must meet or exceed the following physical properties.

2. Thickness: 50 mil, nominal, in accordance with ASTM D 751.
3. Thickness Over Scrim:  $\geq 28$  mil in accordance with ASTM D 751.
4. Breaking Strengths:  $\geq 390$  lbf. (MD) and  $\geq 438$  lbf. (XMD) in accordance with ASTM D 751, Grab Method.
5. Elongation at Break:  $\geq 31\%$  (MD) and  $\geq 31\%$  (XMD) in accordance with ASTM D 751, Grab Method.
6. Heat Aging in accordance with ASTM D 3045: 176 °F for 56 days. No sign of cracking, chipping or crazing. (In accordance with ASTM D 4434).
7. Factory Seam Strength:  $\geq 417$  lbf. in accordance with ASTM D 751, Grab Method.
8. Tearing Strength:  $\geq 132$  lbf. (MD) and  $\geq 163$  lbf. (XMD) in accordance with ASTM D 751, Procedure B.
9. Low Temperature Bend (Flexibility): Pass at -40 °F in accordance with ASTM D 2136.
10. Accelerated Weathering: No cracking, checking, crazing, erosion or chalking after 5,000 hours in accordance with ASTM G 154.
11. Linear Dimensional Change:  $< 0.5\%$  in accordance with ASTM D 1204 at  $176 \pm 2$  °F for 6 hours.
12. Water Absorption:  $< 1.7\%$  in accordance with ASTM D 570 at 158 °F for 166 hours.
13. Static Puncture Resistance:  $\geq 56$  lbs. in accordance with ASTM D 5602.
14. Dynamic Puncture Resistance:  $\geq 14.7$  ft-lbf. in accordance with ASTM D 5635.

D. Cool Roof Rating Council (CRRC):

1. Membrane must be listed on CRRC website.
  - a. Initial Solar Reflectance:  $\geq 88\%$
  - b. Initial Thermal Emittance:  $\geq 87\%$
  - c. Initial Solar Reflective Index (SRI):  $\geq 111$
  - d. 3-Year Aged Solar Reflectance:  $\geq 68\%$
  - e. 3-Year Aged Thermal Emittance:  $\geq 84\%$
  - f. 3-Year Aged Solar Reflective Index (SRI):  $\geq 82$

#### 1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.

- B. Duro-Last data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
  - 4. Maintenance requirements.
- C. Shop Drawings: Indicate insulation pattern, overall membrane layout, field seam locations, joint or termination detail conditions, and location of fasteners.
- D. Verification Samples: For each product specified, two samples, representing actual product, color, and finish.
  - 1. 4 inch by 6 inch sample of roofing membrane, of color specified.
  - 2. 4 inch by 6 inch sample of walkway pad.
  - 3. Termination bar, fascia bar with cover, drip edge and gravel stop if to be used.
  - 4. Each fastener type to be used for installing membrane, insulation/recover board, termination bar and edge details.
- E. Installer Certification: Certification from the roofing system manufacturer that Installer is approved, authorized, or licensed by manufacturer to install roofing system.
- F. Manufacturer's warranties.

#### 1.5 QUALITY ASSURANCE

- A. Perform work in accordance with manufacturer's installation instructions.
- B. Manufacturer Qualifications: A manufacturer specializing in the production of PVC membranes systems and utilizing a Quality Control Manual during the production of the membrane roofing system that has been approved by and is inspected by Underwriters Laboratories.
- C. Installer Qualifications: Company specializing in installation of roofing systems similar to those specified in this project and approved by the roofing system manufacturer.
- D. Source Limitations: Obtain components for membrane roofing system from roofing membrane manufacturer.
- E. There shall be no deviations from the roof membrane manufacturer's specifications or the approved shop drawings without the prior written approval of the manufacturer.



## 1.6 REGULATORY REQUIREMENTS

- A. Conform to applicable Florida Building Code for roof assembly that will meet 150mph winds, provide wind uplift, and fire hazard requirements.
- B. Fire Exposure: Provide membrane roofing materials with the following fire-test-response characteristics. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.
  - a. Class A; ASTM E 108, for application and roof slopes indicated.
- 1. Fire-Resistance Ratings: Comply with ASTM E 119 for fire-resistance-rated roof assemblies of which roofing system is a part.
- 2. Conform to applicable code for roof assembly fire hazard requirements.
- C. Wind Uplift:
  - 1. Roofing System Design: Provide a roofing system designed to resist uplift pressures calculated according to the current edition of the ASCE-7 Specification *Minimum Design Loads for Buildings And Other Structures*.

## 1.7 PRE-INSTALLATION MEETING

- A. Convene meeting not less than one week before starting work of this section.
- B. Review methods and procedures related to roof deck construction and roofing system including, but not limited to, the following.
  - 1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing installer, roofing system manufacturer's representative, deck installer, and installers whose work interfaces with or affects roofing including installers of roof accessories and roof-mounted equipment.
  - 2. Review and finalize construction schedule and verify availability of materials, installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  - 3. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
  - 4. Review structural loading limitations of roof deck during and after roofing.
  - 5. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
  - 6. Review governing regulations and requirements for insurance and certificates if

applicable.

7. Review temporary protection requirements for roofing system during and after installation.
8. Review roof observation and repair procedures after roofing installation.

#### 1.8 DELIVERY, STORAGE AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.
3. Store liquid materials in their original undamaged containers in a clean, dry, protected Exterior Fire-Test Exposure:
  - B. location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
  - C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
  - D. Store roof materials and place equipment in a manner to avoid permanent deflection of deck.
  - E. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

#### 1.9 WARRANTY

- A. Contractor's Warranty: The contractor shall warrant the roof application with respect to workmanship and proper application for two (2) years from the effective date of the warranty issued by the manufacturer.
- B. Manufacturer's Warranty: Must provide for completion of repairs, replacement of membrane or total replacement of the roofing system at the then-current material and labor prices throughout the life of the warranty. In addition the warranty must meet the following criteria:
  1. Warranty Period: 20 years from date issued by the manufacturer.
  2. First 15 years:
    - a. Must provide for completion of repairs, replacement of membrane or total replacement of the roofing system at the then-current material and labor prices.

- b. No exclusions for incidental or consequential damages.
- 3. Last 5 years:
  - a. Excludes incidental and consequential damages.
- 4. No exclusion for damage caused by ponding water.
- 5. No exclusion for damage caused by biological growth.
- 6. Issued direct from and serviced by the roof membrane manufacturer.
- 7. Transferable for the full term of the warranty.

## **PART 2 PRODUCTS**

### **2.1 MANUFACTURER**

- A. Manufacturer: Duro-Last Roofing, Inc., which is located at: 525 Morley Drive, Saginaw, MI 48601. Telephone: 800-248-0280.
- B. All roofing system components to be provided or approved by Duro-Last Roofing, Inc.
- C. Substitutions: Not permitted.

### **2.2 ROOFING SYSTEM COMPONENTS**

- A. Roofing Membrane: Duro-Last® PVC thermoplastic membrane conforming to ASTM D 4434, type III, fabric-reinforced, PVC. Membrane properties as follows:
  - 1. Thickness:
    - a. 50 mil.
  - 2. Exposed Face Color:
    - a. White.
- B. Accessory Materials: Provide accessory materials supplied by or approved for use by Duro-Last Roofing, Inc.
  - 1. Sheet Flashing: Manufacturer's standard reinforced PVC sheet flashing.
  - 2. Duro-Last Factory Prefabricated Flashings: manufactured using Manufacturer's standard reinforced PVC membrane.
    - a. Stack Flashings.
    - b. Curb Flashings.
    - c. Inside and Outside Corners.
  - 3. Sealants and Adhesives: Compatible with roofing system and supplied by Duro-Last

Roofing, Inc.

- a. Duro-Caulk® Plus.
- b. Strip Mastic.
- 4. Slip Sheet: Compatible with roofing system and supplied by Duro-Last Roofing, Inc.
- 5. Fasteners and Plates: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane and insulation to substrate. Supplied by Duro-Last Roofing, Inc.
  - a. #14 Heavy Duty Fasteners.
  - b. Cleat Plates.
  - c. 3 inch Metal Plates.
- 6. Termination and Edge Details: Supplied by Duro-Last Roofing, Inc.
  - a. Termination Bar.
  - b. 2-Piece Compression Metal System.
  - c. Flat Coping.
- 7. Vinyl Coated Metal: Supplied by Duro-Last Roofing, Inc. 24 gauge, hot-dipped galvanized, grade 90 metal with a minimum of 17 mil of Duro-Last membrane laminated to one side.
- 8. Two-Way Roof Vents: Supplied by Duro-Last Roofing, Inc. Install a minimum of 1 vent for each 1,000 ft<sup>2</sup> (93 m<sup>2</sup>) of roof area.
- C. Underlayment Board:
  - 1. Duro-Guard® XPS Fan Fold - A.
    - a. 3/8 inch thick.
- D. Walkways:
  - A. Provide non-skid, maintenance-free walkway pads in areas of heavy foot traffic and around mechanical equipment.
    - a. Duro-Last Roof Trak® III Walkway Pad.

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Verify that the surfaces and site conditions are ready to receive work.
- B. Verify that the deck is supported and secured.

- C. Verify that the deck is clean and smooth, free of depressions, waves, or projections, and properly sloped to drains, valleys, eaves, scuppers or gutters.
- D. Verify that the deck surfaces are dry and free of standing water, ice or snow.
- E. Verify that all roof openings or penetrations through the roof are solidly set.
- F. If substrate preparation is the responsibility of another contractor, notify Architect of unsatisfactory preparation before proceeding.
- G. Prior to re-covering an existing roofing system, conduct an inspection of the roof system accompanied by a representative of the membrane manufacturer or an authorized contractor.
  - 1. Determine required fastener type, length, and spacing.
  - 2. Verify that moisture content of existing roofing is within acceptable limits.
  - 3. Identify damaged areas requiring repair before installation of new roofing.
  - 4. Conduct core cuts as required to verify information required.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Surfaces shall be clean, smooth, free of fins, sharp edges, loose and foreign material, oil, grease, and bitumen.
- D. Re-Roofing Over Existing Single-Ply System:
  - 1. Cut existing membrane free from entire roof perimeter and from around all penetrations.
  - 2. Slice membrane in a 10 foot grid pattern throughout field of roof.
  - 3. Remove all loose or high fasteners.
  - 4. Remove PVC membrane installed directly over styrene insulation board and repair damaged insulation.

### 3.3 INSTALLATION

- A. Install insulation in accordance with the roof manufacturer's requirements.
- B. Separation Board: Duro-Guard® XPS Fan Fold - A.
  - 1. Use only fasteners, stress plates and fastening patterns accepted for use by the roof manufacturer. Fastening patterns must meet applicable design requirements.

- a. Install fasteners in accordance with the roof manufacturer's requirements. Fasteners that are improperly installed must be replaced or corrected.
  - b. Attach boards in parallel courses with end joints staggered 50% and adjacent boards butted together with no gaps greater than ¼ inch.
- C. Roof Membrane: 50 mil, Duro-Last® PVC thermoplastic membrane.
  - 1. Use only fasteners, stress plates and fastening patterns accepted for use by the roof manufacturer. Fastening patterns must meet the applicable design requirements.
  - 2. Install fasteners in accordance with the roof manufacturer's requirements. Fasteners that are improperly installed shall be replaced or corrected.
  - 3. Mechanically fasten membrane to the structural deck utilizing fasteners and fastening patterns that in accordance with the roof manufacturer's requirements.
  - 4. Cut membrane to fit neatly around all penetrations and roof projections.
  - 5. Unroll roofing membrane and positioned with a minimum 6 inch overlap.
- D. Seaming:
  - 1. Weld overlapping sheets together using hot air. Minimum weld width is 1-1/2 inches.
  - 2. Check field welded seams for continuity and integrity and repair all imperfections by the end of each work day.
- E. Membrane Termination/Securement: All membrane terminations shall be completed in accordance with the membrane manufacturer's requirements.
  - 1. Provide securement at all membrane terminations at the perimeter of each roof level, roof section, curb flashing, skylight, expansion joint, interior wall, penthouse, and other similar condition.
  - 2. Provide securement at any angle change where the slope or combined slopes exceeds two inches in one horizontal foot.
- F. Flashings: Complete all flashings and terminations as indicated on the drawings and in accordance with the membrane manufacturer's requirements.
  - 1. Provide securement at all membrane terminations at the perimeter of each roof level, roof section, curb flashing, skylight, expansion joint, interior wall, penthouse, and other similar condition.
    - a. Do not apply flashing over existing thru-wall flashings or weep holes.
    - b. Secure flashing on a vertical surface before the seam between the flashing and the main roof sheet is completed.
  - c. Extend flashing membrane a minimum of 6 inches (152 mm) onto the main roof

sheet beyond the mechanical securement.

- d. Use care to ensure that the flashing does not bridge locations where there is a change in direction (e.g. where the parapet meets the roof deck).

2. Penetrations:

- a. Flash all pipes, supports, soil stacks, cold vents, and other penetrations passing through the roofing membrane as indicated on the Drawings and in accordance with the membrane manufacturer's requirements.
- b. Utilize custom prefabricated flashings supplied by the membrane manufacturer.
- c. Existing Flashings: Remove when necessary to allow new flashing to terminate directly to the penetration.

3. Pipe Clusters and Unusual Shapes:

- a. Clusters of pipes or other penetrations which cannot be sealed with prefabricated membrane flashings shall be sealed by surrounding them with a prefabricated vinyl-coated metal pitch pan and sealant supplied by the membrane manufacturer.
- b. Vinyl-coated metal pitch pans shall be installed, flashed and filled with sealant in accordance with the membrane manufacturer's requirements.
- c. Pitch pans shall not be used where prefabricated or field fabricated flashings are possible.

G. Roof Drains:

1. Coordinate installation of roof drains and vents specified in Section 15146 - Plumbing Specialties.
2. Remove existing flashing and asphalt at existing drains in preparation for sealant and membrane.
3. Provide a smooth clean surface on the mating surface between the clamping ring and the drain base.

H. Edge Details:

- a. Provide edge details as indicated on the Drawings. Install in accordance with the membrane manufacturer's requirements.
- b. Join individual sections in accordance with the membrane manufacturer's requirements.
- c. Coordinate installation of metal flashing and counter flashing specified in Section 07620.

- d. Manufactured Roof Specialties: Coordinate installation of copings, counter flashing systems, gutters, downspouts, and roof expansion assemblies specified in Section 07710.

I. Walkways:

- a. Install walkways in accordance with the membrane manufacturer's requirements.
- b. Provide walkways where indicated on the Drawings.
- c. Install walkway pads at roof hatches, access doors, rooftop ladders and all other traffic concentration points regardless of traffic frequency. Provided in areas receiving regular traffic to service rooftop units or where a passageway over the surface is required.
- d. Do not install walkways over flashings or field seams until manufacturer's warranty inspection has been completed.

J. Water cut-offs:

- a. Provide water cut-offs on a daily basis at the completion of work and at the onset of inclement weather.
- b. Provide water cut-offs to ensure that water does not flow beneath the completed sections of the new roofing system.
- c. Remove water cut-offs prior to the resumption of work.
- d. The integrity of the water cut-off is the sole responsibility of the roofing contractor.
- e. Any membrane contaminated by the cut-off material shall be cleaned or removed.

### 3.4 FIELD QUALITY CONTROL

- A. The membrane manufacturer's representative shall provide a comprehensive final inspection after completion of the roof system. All application errors shall be addressed and final punch list completed.

### 3.5 PROTECTION

- A. Protect installed roofing products from construction operations until completion of project.
- B. Where traffic is anticipated over completed roofing membrane, protect from damage using durable materials that are compatible with membrane.
- C. Repair or replace damaged products after work is completed.

END OF SECTION



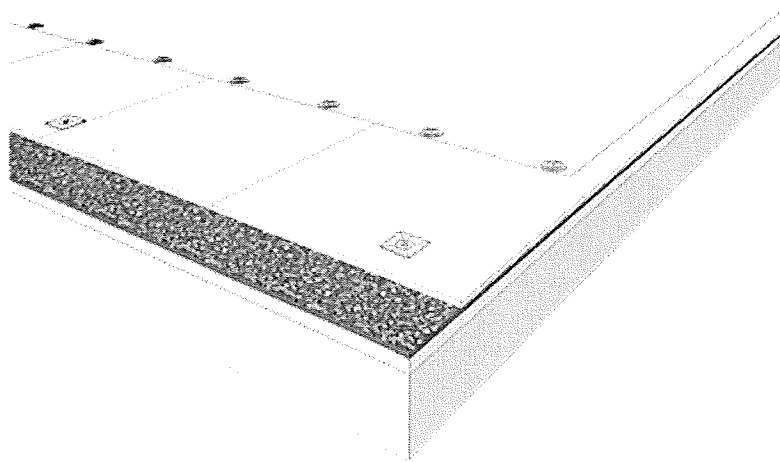
## **SPC Clearwater Campus**

2465 Drew Street  
Clearwater, FL

LA Building

Prepared For: Rafael Martinez  
SPC

Prepared By: Joey weatherford  
Duro-last Roofing



### **Duro-Last Roof Assembly Description**

- **Duro-Last® PVC thermoplastic membrane**  
Membrane Thickness: 50 mil  
Color: White  
Attachment: Attached with mechanical fasteners
- **Duro-Guard® XPS Fan Fold - A**  
Thickness: 3/8 inch  
Attachment: Attached with mechanical fasteners
- **BUR: Smooth Surface**
- **Cementitious Wood Fiber (Tectum) Roof Deck**

9

## **PART 1 GENERAL**

### **1.10 SECTION INCLUDES**

- A. Overlay BUR: Smooth Surface.
- B. Duro-Last® PVC thermoplastic membrane attached with mechanical fasteners.
- C. Duro-Guard® XPS Fan Fold - A, attached with mechanical fasteners.
- D. Prefabricated flashings, corners, parapets, stacks, vents, and related details.
- E. Fasteners, adhesives, and other accessories required for a complete roofing installation.
- F. Traffic Protection.

### **1.11 REFERENCES**

- A. NRCA - The NRCA Roofing and Waterproofing Manual.
- B. ASCE 7 - Minimum Design Loads For Buildings And Other Structures.
- C. UL - Roofing Materials and Systems Directory, Roofing Systems (TGFU.R10128).
- D. ASTM C 1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
- E. ASTM D 751 - Standard Test Methods for Coated Fabrics.
- F. ASTM D 4434 - Standard Specification for Poly(Vinyl Chloride) Sheet Roofing.
- G. ASTM E 108 - Standard Test Methods for Fire Tests of Roof Coverings.
- H. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

### **1.12 SYSTEM DESCRIPTION**

- A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing membrane manufacturer based on testing and field experience.
- C. Physical Properties:
  - 1. Roof product must meet the requirements of Type III PVC sheet roofing as defined by ASTM D 4434 and must meet or exceed the following physical properties.

2. Thickness: 50 mil, nominal, in accordance with ASTM D 751.
3. Thickness Over Scrim:  $\geq 28$  mil in accordance with ASTM D 751.

Breaking Strengths:  $\geq 390$  lbf. (MD) and  $\geq 438$  lbf. (XMD) in accordance with ASTM

4. D 751, Grab Method.
5. Elongation at Break:  $\geq 31\%$  (MD) and  $\geq 31\%$  (XMD) in accordance with ASTM D 751, Grab Method.
6. Heat Aging in accordance with ASTM D 3045: 176 °F for 56 days. No sign of cracking, chipping or crazing. (In accordance with ASTM D 4434).
7. Factory Seam Strength:  $\geq 417$  lbf. in accordance with ASTM D 751, Grab Method.
8. Tearing Strength:  $\geq 132$  lbf. (MD) and  $\geq 163$  lbf. (XMD) in accordance with ASTM D 751, Procedure B.
9. Low Temperature Bend (Flexibility): Pass at -40 °F in accordance with ASTM D 2136.
10. Accelerated Weathering: No cracking, checking, crazing, erosion or chalking after 5,000 hours in accordance with ASTM G 154.
11. Linear Dimensional Change:  $< 0.5\%$  in accordance with ASTM D 1204 at  $176 \pm 2$  °F for 6 hours.
12. Water Absorption:  $< 1.7\%$  in accordance with ASTM D 570 at 158 °F for 166 hours.
13. Static Puncture Resistance:  $\geq 56$  lbs. in accordance with ASTM D 5602.
14. Dynamic Puncture Resistance:  $\geq 14.7$  ft-lbf. in accordance with ASTM D 5635.

D. Cool Roof Rating Council (CRRC):

1. Membrane must be listed on CRRC website.
  - a. Initial Solar Reflectance:  $\geq 88\%$
  - b. Initial Thermal Emittance:  $\geq 87\%$
  - c. Initial Solar Reflective Index (SRI):  $\geq 111$
  - d. 3-Year Aged Solar Reflectance:  $\geq 68\%$
  - e. 3-Year Aged Thermal Emittance:  $\geq 84\%$
  - f. 3-Year Aged Solar Reflective Index (SRI):  $\geq 82$

1.13 SUBMITTALS

- A. Submit under provisions of Section 01300.

- B. Duro-Last data sheets on each product to be used, including:
  - 5. Preparation instructions and recommendations.
  - 6. Storage and handling requirements and recommendations.
  - 7. Installation methods.
  - 8. Maintenance requirements.
- C. Shop Drawings: Indicate insulation pattern, overall membrane layout, field seam locations, joint or termination detail conditions, and location of fasteners.
- D. Verification Samples: For each product specified, two samples, representing actual product, color, and finish.
  - 5. 4 inch by 6 inch sample of roofing membrane, of color specified.
  - 6. 4 inch by 6 inch sample of walkway pad.
  - 7. Termination bar, fascia bar with cover, drip edge and gravel stop if to be used.
  - 8. Each fastener type to be used for installing membrane, insulation/recover board, termination bar and edge details.
- E. Installer Certification: Certification from the roofing system manufacturer that Installer is approved, authorized, or licensed by manufacturer to install roofing system.
- F. Manufacturer's warranties.

#### 1.14 QUALITY ASSURANCE

- A. Perform work in accordance with manufacturer's installation instructions.
- B. Manufacturer Qualifications: A manufacturer specializing in the production of PVC membranes systems and utilizing a Quality Control Manual during the production of the membrane roofing system that has been approved by and is inspected by Underwriters Laboratories.
- C. Installer Qualifications: Company specializing in installation of roofing systems similar to those specified in this project and approved by the roofing system manufacturer.
- D. Source Limitations: Obtain components for membrane roofing system from roofing membrane manufacturer.
- E. There shall be no deviations from the roof membrane manufacturer's specifications or the approved shop drawings without the prior written approval of the manufacturer.

### 1.15 REGULATORY REQUIREMENTS

- A. Conform to applicable Florida Building Code for roof assembly that will meet 150mph winds, provide wind uplift, and fire hazard requirements.
- B. Fire Exposure: Provide membrane roofing materials with the following fire-test-response characteristics. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.
  - 4. Exterior Fire-Test Exposure:
    - b. Class A; ASTM E 108, for application and roof slopes indicated.
  - 5. Fire-Resistance Ratings: Comply with ASTM E 119 for fire-resistance-rated roof assemblies of which roofing system is a part.
  - 6. Conform to applicable code for roof assembly fire hazard requirements.
- C. Wind Uplift:
  - 2. Roofing System Design: Provide a roofing system designed to resist uplift pressures calculated according to the current edition of the ASCE-7 Specification *Minimum Design Loads for Buildings And Other Structures*.

### 1.16 PRE-INSTALLATION MEETING

- A. Convene meeting not less than one week before starting work of this section.
- B. Review methods and procedures related to roof deck construction and roofing system including, but not limited to, the following.
  - 9. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing installer, roofing system manufacturer's representative, deck installer, and installers whose work interfaces with or affects roofing including installers of roof accessories and roof-mounted equipment.
  - 10. Review and finalize construction schedule and verify availability of materials, installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  - 11. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
  - 12. Review structural loading limitations of roof deck during and after roofing.
  - 13. Review base flashings, special roofing details, roof drainage, roof penetrations,

equipment curbs, and condition of other construction that will affect roofing system.

14. Review governing regulations and requirements for insurance and certificates if applicable.

15. Review temporary protection requirements for roofing system during and after installation.

16. Review roof observation and repair procedures after roofing installation.

#### 1.17 DELIVERY, STORAGE AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Store roof materials and place equipment in a manner to avoid permanent deflection of deck.
- E. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

#### 1.18 WARRANTY

- A. Contractor's Warranty: The contractor shall warrant the roof application with respect to workmanship and proper application for two (2) years from the effective date of the warranty issued by the manufacturer.
- B. Manufacturer's Warranty: Must provide for completion of repairs, replacement of membrane or total replacement of the roofing system at the then-current material and labor prices throughout the life of the warranty. In addition the warranty must meet the following criteria:
  - 1. Warranty Period: 20 years from date issued by the manufacturer.
  - 2. First 15 years:
    - a. Must provide for completion of repairs, replacement of membrane or total replacement of the roofing system at the then-current material and labor prices.

- b. No exclusions for incidental or consequential damages.
- 3. Last 5 years:
  - a. Excludes incidental and consequential damages.
- 4. No exclusion for damage caused by ponding water.
- 5. No exclusion for damage caused by biological growth.
- 6. Issued direct from and serviced by the roof membrane manufacturer.
- 7. Transferable for the full term of the warranty.

## **PART 2 PRODUCTS**

### **2.3 MANUFACTURER**

- A. Manufacturer: Duro-Last Roofing, Inc., which is located at: 525 Morley Drive, Saginaw, MI 48601. Telephone: 800-248-0280.
- B. All roofing system components to be provided or approved by Duro-Last Roofing, Inc.
- C. Substitutions: Not permitted.

### **2.4 ROOFING SYSTEM COMPONENTS**

- A. Roofing Membrane: Duro-Last® PVC thermoplastic membrane conforming to ASTM D 4434, type III, fabric-reinforced, PVC. Membrane properties as follows:
  - 1. Thickness:
    - b. 50 mil.
  - 2. Exposed Face Color:
    - b. White.
- B. Accessory Materials: Provide accessory materials supplied by or approved for use by Duro-Last Roofing, Inc.
  - 1. Sheet Flashing: Manufacturer's standard reinforced PVC sheet flashing.
  - 2. Duro-Last Factory Prefabricated Flashings: manufactured using Manufacturer's standard reinforced PVC membrane.
    - a. Stack Flashings.
    - b. Curb Flashings.
    - c. Inside and Outside Corners.
    - d. Drain Boots, Composite Drain Rings (CDR) and Dome Strainers.

3. Sealants and Adhesives: Compatible with roofing system and supplied by Duro-Last Roofing, Inc.
    - a. Duro-Caulk® Plus.
    - b. Strip Mastic.
  4. Slip Sheet: Compatible with roofing system and supplied by Duro-Last Roofing, Inc.
    - a. Duro-Blue™ Slip Sheet.
  5. Fasteners and Plates: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane and insulation to substrate. Supplied by Duro-Last Roofing, Inc.
    - a. Auger Fasteners.
  6. Termination and Edge Details: Supplied by Duro-Last Roofing, Inc.
    - a. Termination Bar.
    - b. 2-Piece Compression Metal System.
    - c. Kynar Steel Fascia Cover.
  7. Vinyl Coated Metal: Supplied by Duro-Last Roofing, Inc. 24 gauge, hot-dipped galvanized, grade 90 metal with a minimum of 17 mil of Duro-Last membrane laminated to one side.
  8. Two-Way Roof Vents: Supplied by Duro-Last Roofing, Inc. Install a minimum of 1 vent for each 1,000 ft<sup>2</sup> (93 m<sup>2</sup>) of roof area.
- C. Underlayment Board:
1. Duro-Guard® XPS Fan Fold - A.
    - a. 3/8 inch thick.
- D. Walkways:
1. Provide non-skid, maintenance-free walkway pads in areas of heavy foot traffic and around mechanical equipment.
    - a. Duro-Last Roof Trak® III Walkway Pad.

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Verify that the surfaces and site conditions are ready to receive work.
- B. Verify that the deck is supported and secured.
- C. Verify that the deck is clean and smooth, free of depressions, waves, or projections, and



properly sloped to drains, valleys, eaves, scuppers or gutters.

- D. Verify that the deck surfaces are dry and free of standing water, ice or snow.
- E. Verify that all roof openings or penetrations through the roof are solidly set.
- F. If substrate preparation is the responsibility of another contractor, notify Architect of unsatisfactory preparation before proceeding.
- G. Prior to re-covering an existing roofing system, conduct an inspection of the roof system accompanied by a representative of the membrane manufacturer or an authorized contractor.
  - 5. Determine required fastener type, length, and spacing.
  - 6. Verify that moisture content of existing roofing is within acceptable limits.
  - 7. Identify damaged areas requiring repair before installation of new roofing.
  - 8. Conduct core cuts as required to verify information required.

### 3.2 PREPARATION

- E. Clean surfaces thoroughly prior to installation.
- F. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- G. Surfaces shall be clean, smooth, free of fins, sharp edges, loose and foreign material, oil, grease, and bitumen.
- H. Re-Roofing Over Existing Single-Ply System:
  - 5. Cut existing membrane free from entire roof perimeter and from around all penetrations.
  - 6. Slice membrane in a 10 foot grid pattern throughout field of roof.
  - 7. Remove all loose or high fasteners.
  - 8. Remove PVC membrane installed directly over styrene insulation board and repair damaged insulation.

### 4. INSTALLATION

- A. Install insulation in accordance with the roof manufacturer's requirements.
- B. Separation Board: Duro-Guard® XPS Fan Fold - A.
  - 1. Use only fasteners, stress plates and fastening patterns accepted for use by the roof manufacturer. Fastening patterns must meet applicable design requirements.

- c. Install fasteners in accordance with the roof manufacturer's requirements. Fasteners that are improperly installed must be replaced or corrected.
  - d. Attach boards in parallel courses with end joints staggered 50% and adjacent boards butted together with no gaps greater than ¼ inch.
- C. Roof Membrane: 50 mil, Duro-Last® PVC thermoplastic membrane.
  - 1. Use only fasteners, stress plates and fastening patterns accepted for use by the roof manufacturer. Fastening patterns must meet the applicable design requirements.
  - 2. Install fasteners in accordance with the roof manufacturer's requirements. Fasteners that are improperly installed shall be replaced or corrected.
  - 3. Mechanically fasten membrane to the structural deck utilizing fasteners and fastening patterns that in accordance with the roof manufacturer's requirements.
  - 4. Cut membrane to fit neatly around all penetrations and roof projections.
  - 5. Unroll roofing membrane and positioned with a minimum 6 inch overlap.
- D. Seaming:
  - 1. Weld overlapping sheets together using hot air. Minimum weld width is 1-1/2 inches.
  - 2. Check field welded seams for continuity and integrity and repair all imperfections by the end of each work day.
- E. Membrane Termination/Securement: All membrane terminations shall be completed in accordance with the membrane manufacturer's requirements.
  - 1. Provide securement at all membrane terminations at the perimeter of each roof level, roof section, curb flashing, skylight, expansion joint, interior wall, penthouse, and other similar condition.
  - 2. Provide securement at any angle change where the slope or combined slopes exceeds two inches in one horizontal foot.
- F. Flashings: Complete all flashings and terminations as indicated on the drawings and in accordance with the membrane manufacturer's requirements.
  - 1. Provide securement at all membrane terminations at the perimeter of each roof level, roof section, curb flashing, skylight, expansion joint, interior wall, penthouse, and other similar condition.
    - a. Do not apply flashing over existing thru-wall flashings or weep holes.
    - b. Secure flashing on a vertical surface before the seam between the flashing and the main roof sheet is completed.
  - c. Extend flashing membrane a minimum of 6 inches (152 mm) onto the main roof

sheet beyond the mechanical securement.

- d. Use care to ensure that the flashing does not bridge locations where there is a change in direction (e.g. where the parapet meets the roof deck).

G. Penetrations:

- a. Flash all pipes, supports, soil stacks, cold vents, and other penetrations passing through the roofing membrane as indicated on the Drawings and in accordance with the membrane manufacturer's requirements.
- b. Utilize custom prefabricated flashings supplied by the membrane manufacturer.
- c. Existing Flashings: Remove when necessary to allow new flashing to terminate directly to the penetration.

H. Pipe Clusters and Unusual Shapes:

- a. Clusters of pipes or other penetrations which cannot be sealed with prefabricated membrane flashings shall be sealed by surrounding them with a prefabricated vinyl-coated metal pitch pan and sealant supplied by the membrane manufacturer.
- b. Vinyl-coated metal pitch pans shall be installed, flashed and filled with sealant in accordance with the membrane manufacturer's requirements.
- c. Pitch pans shall not be used where prefabricated or field fabricated flashings are possible.

I. Roof Drains:

- a. Coordinate installation of roof drains and vents specified in Section 15146 - Plumbing Specialties.
- b. Remove existing flashing and asphalt at existing drains in preparation for sealant and membrane.
- c. Provide a smooth clean surface on the mating surface between the clamping ring and the drain base.

J. Edge Details:

- a. Provide edge details as indicated on the Drawings. Install in accordance with the membrane manufacturer's requirements.
- b. Join individual sections in accordance with the membrane manufacturer's requirements.

Coordinate installation of metal flashing and counter flashing specified in Section

- c. 07620.
- d. Manufactured Roof Specialties: Coordinate installation of copings, counter flashing

systems, gutters, downspouts, and roof expansion assemblies specified in Section 07710.

K. Walkways:

- a. Install walkways in accordance with the membrane manufacturer's requirements.
- b. Provide walkways where indicated on the Drawings.
- c. Install walkway pads at roof hatches, access doors, rooftop ladders and all other traffic concentration points regardless of traffic frequency. Provided in areas receiving regular traffic to service rooftop units or where a passageway over the surface is required.
- d. Do not install walkways over flashings or field seams until manufacturer's warranty inspection has been completed.

L. Water cut-offs:

- a. Provide water cut-offs on a daily basis at the completion of work and at the onset of inclement weather.
- b. Provide water cut-offs to ensure that water does not flow beneath the completed sections of the new roofing system.
- c. Remove water cut-offs prior to the resumption of work.
- d. The integrity of the water cut-off is the sole responsibility of the roofing contractor.
- e. Any membrane contaminated by the cut-off material shall be cleaned or removed.

6. FIELD QUALITY CONTROL

- A. The membrane manufacturer's representative shall provide a comprehensive final inspection after completion of the roof system. All application errors shall be addressed and final punch list completed.

7. PROTECTION

- A. Protect installed roofing products from construction operations until completion of project.
- B. Where traffic is anticipated over completed roofing membrane, protect from damage using durable materials that are compatible with membrane.
- C. Repair or replace damaged products after work is completed.

END OF SECTION

### ***Common Problems that may Result in Bid Being Rejected***

The following is a listing of some of the more common mistakes/problems that may result in bid being rejected. This is only a partial listing therefore, the General Specifications and Technical Specifications should be thoroughly reviewed before submitting a bid.

- ☐ Failure to sign and notarize the bid.
- ☐ Failure to fill out the bid in ink, typewriter or via computer.
- ☐ Failure to initial price changes.
- ☐ Taking exceptions.
- ☐ Failure to meet the minimum requirements of the specifications.
- ☐ Failure to provide all required information/documentation.
- ☐ Failure to deliver the bid on time to the proper location.
- ☐ Failure to sign and return all addenda which may have been issued.
- ☐ Failure to answer all questions or meet minimum requirements as stated on the Contractors Qualification Statement.
- ☐ Failure to provide letter indicating the ability to bond project over \$200,000.00.

## ***Attachments***

### **ST. PETERSBURG COLLEGE**

**INVITATION TO BID NO. SPC PROJECT SPC#06-14-15  
LA, ROOF RESTORATION, LANGUAGE ARTS BUILDING  
CLEARWATER CAMPUS, 2465 DREW STREET, CLEARWATER, FL 33765**

### ***Contractors Registration Form***

Anyone interested in doing business with St. Petersburg College is requested to complete the Contractors Registration Form. The completed Contractors Registration Form is not a guarantee of an opportunity to bid, but will help us in evaluating your business for bidding opportunities.

Business Name:	
Mailing Address (Street/P.O. box):	
City: ____	State: ____ County: ____ Zip Code: ____
Contact Person:	Title:
Telephone #:	Fax #:
Email Address:	
Is your company certified by the State of Florida's Office of Supplier Diversity as a Minority/Woman owned business? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, identify certification:	
Please forward a current catalog or provide a website address if catalog is available online. Website Address:	
Type of business/service offered:	
Please return the completed Contractors Registration Form to:  St. Petersburg College Facilities Services Department, Room No. 252 P.O. Box 13489 St. Petersburg, FL 33733-3489  OR -  Fax to: (727) 444-6710	

**ST. PETERSBURG COLLEGE**  
**INVITATION TO BID NO. SPC PROJECT SPC#06-14-15**  
**LA, ROOF RESTORATION, LANGUAGE ARTS BUILDING**  
**CLEARWATER CAMPUS, 2465 DREW STREET, CLEARWATER, FL 33765**

The undersigned, having carefully read the Invitation to Bid and contract documents, conditions, and general/technical specifications of Bid No. SPC Project SPC#06-14-15 for LA, Roof Restoration, Language Arts Building, Clearwater Campus hereby submits bid pricing for the described services as follows:

**BID FORM**

1. Base bid \$ \_\_\_\_\_ LA, Roof Restoration, Clearwater Campus as per contract documents and specifications herein.
2. The Bidder shall provide a unit costs for replacement of existing damaged cupped or warped insulation in \$ per sf. (\$/sf) \_\_\_\_\_
3. The Bidder shall provide a linear foot price (\$/lf) for the 30" wide Maintenance Walkways installed in Dollars per lineal foot \$/lf \_\_\_\_\_
4. The Bidder shall provide a unit costs for replacement of existing damaged Tectum Roof Deck in \$ per sf. (\$/sf) \_\_\_\_\_
5. The Bidder shall provide a unit costs for replacement of existing damaged metal deck in \$ per sf. (\$/sf) \_\_\_\_\_

**DATE:** \_\_\_\_\_

**FIRM NAME:** \_\_\_\_\_

**BY:** \_\_\_\_\_

**Authorized Signature**

**Printed/Typed Name of Signature**

**TITLE:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**PHONE/FAX:** \_\_\_\_\_

**EMAIL ADDRESS:** \_\_\_\_\_

## Bid Tender /Contractor's Qualification Statement

The undersigned certifies under oath the truth and correctness of all statements and all answers to questions made hereinafter. In order to qualify for bid, Contractor must comply with minimum qualifications as described in the statements below. Failure to include references will disqualify your firm.

**Submitted to: ST. PETERSBURG COLLEGE/Facilities Services Director**  
**Bid No. SPC#06-14-15**

**Submitted by: Name:** \_\_\_\_\_ ( ) Corporation  
**Address:** \_\_\_\_\_ ( ) Partnership  
**Principal Office:** \_\_\_\_\_ ( ) Individual  
**(Note: Attach separate sheets as required.)** ( ) Joint Venture  
( ) Other

1. Your company has been in business 10 years or more. ☐ YES ☐ NO
2. Your company has performed at least 3 projects in the State of Florida in the last 5 years. ☐ YES ☐ NO
3. Your company has performed 3 successful ROOF RESTORATION projects in the last 8 years. ☐ YES ☐ NO

IF YES, PROVIDE NARRATIVE OF SCOPE OF WORK AND OWNER CONTACT INFORMATION FOR EACH PROJECT:

PROJECT #1

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PROJECT #2

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PROJECT #3

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4. Has your company, partners, or authorized officer ever failed to complete a contract? ☐ YES ☐ NO
5. Your company's main business is in RESTORATION OF ROOFING systems ☐ YES ☐ NO
6. Is your company a Certified DuroLast Installer? ☐ YES ☐ NO



**ANTI-COLLUSION STATEMENT:** The below signed bidder has not divulged to, discussed or compared his/her proposal with other bidders and has not colluded with any other bidders or parties to this invitation to bid whatsoever. (NOTE: No premiums, rebates or gratuities permitted either with, prior to, or after any delivery or personal contact. Any such violation will result in the cancellation of this proposal and the removal from bid lists.)

Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, 2015

Name of Company: \_\_\_\_\_

By: \_\_\_\_\_  
(Authorized signature)

Printed Name of signer: \_\_\_\_\_

Title: \_\_\_\_\_

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

**NOTARIZATION**

The foregoing Bid Tender-Contractor's Qualification Statement was Sworn to and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 2015. The individual signing before me is Personally Known \_\_\_\_\_ or produced appropriate identification: \_\_\_\_\_

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

Notary Public-State of \_\_\_\_\_

My Commission expires: \_\_\_\_\_

\_\_\_\_\_  
(Printed, typed or stamped commissioned)  
Name of notary public

## **Drug Free Workplace Certification**

In accordance with Florida Statute 287.087, preference shall be given to businesses with drug-free workplace programs. Whenever two or more bids which are equal with respect to price, quality, and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the contractors submitting identical bids have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

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

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

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CONTRACTOR'S SIGNATURE

## Minority and Woman Owned Business Declaration

Bidder hereby declares that it is a Minority/Woman Owned Business Enterprise by virtue of the following:

Type of Business: Check applicable block(s)

- ☐ **"African American"** includes persons having origins in any of the Black racial groups of Africa.
- ☐ **"Hispanic American"** includes persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish cultures or origins, regardless of race.
- ☐ **"Native American"** includes American Indians, Eskimos, Alaskan Indians, Aleuts and Native Hawaiians.
- ☐ **"Asian-American"** includes persons whose origins are from Japan, China, Taiwan, Korea, Southeast Asia, the Philippines, Samoa, Guam, the U.S. Trust Territories of the Pacific, and Northern Marianas.
- ☐ **"American Woman-Owned Business Enterprise"**
- ☐ **"Service-Disabled Veteran"**

Note: MBE and WBE are defined by Federal Register 49 CFR, Part 23, as a business firm which as at least fifty-one percent (51%) owned by minority or women group members, or in the case of a publicly owned business, at least fifty-one percent (51%) of the stock of which is owned by the minority or woman. The minority or woman ownership must exercise actual day to day management and control of the business.

Bidder:	
Certified by (name of Public Entity, if applicable)	
City:	County:
State:	Zip Code
Certificate Number:	
Attach copy	
Signature:	Date:

**Minority and Woman Owned Businesses (M/WBE) shall complete this page, and return with their submittal**

## Statement of no Proposal

If your company does not intend to bid on this procurement, please complete and return this form prior to the date shown for receipt of bids to: St. Petersburg College, Facilities Department, P.O. Box 13489, St. Petersburg, Florida 33733-3489.

The undersigned declines to bid on the above referenced Invitation to Bid for the following reason(s):

- ☐ Specifications are too "restrictive." (please explain below)
- ☐ Unable to meet specifications
- ☐ Specifications were unclear. (please explain below)
- ☐ Insufficient time to respond
- ☐ We do not offer this type of service or equivalent
- ☐ Our schedule would not permit us to perform
- ☐ Other (please explain below)

REMARKS:

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Company Name

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Telephone

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Signature

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Email Address

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Title

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Typed or Printed Name

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Address

City

State

Zip

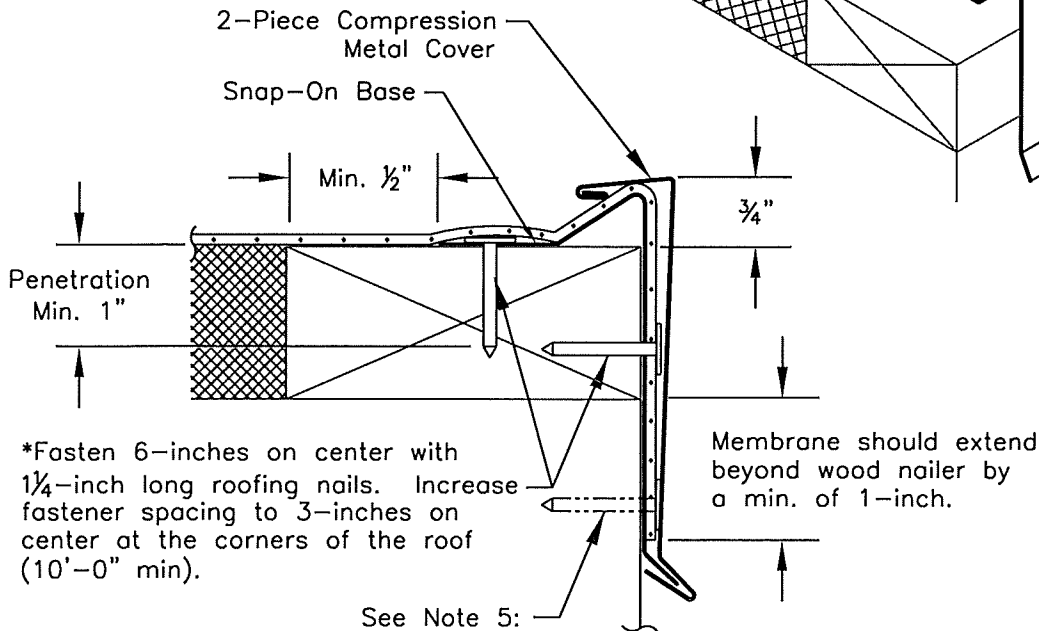
End of Invitation to Bid



DURO-LAST, INC.  
525 Morley Drive  
Saginaw, MI 48601

DETAIL 3110

THE USE OF THIS DETAIL IS NOT ALLOWED ON FULLY ADHERED INSTALLATIONS - SEE DETAILS FA3110 IN THE FULLY ADHERED SECTION.



Note 1: The use of this detail is not to exceed a 2-inch per 12-inch slope.

Note 2: A wood nailer is required if one or more inches of insulation is used. Top of wood nailer is to be flush with top of insulation. Be sure that the wood nailer extends at least  $\frac{1}{2}$ -inch beyond the horizontal edge of the snap-on base.

Note 3: The fasteners used to attach the base to wood nailers, and the membrane to the face of the nailers, must be spaced no greater than 6-inches on-center. The fastener spacing must be increased to 3-inches on-center when attaching the base within 10-feet (min.) of the outside corners of the building.

Note 4: Allow for  $\frac{1}{8}$ -inch expansion gap between 10-foot lengths of snap-on base. Overlap the snap-on covers by 2-inches between 10-foot lengths.

Note 5: When installing this detail with a 6-inch or greater vertical surface, additional mechanical attachment is required on the snap on base.

DATE: JANUARY 2009

EDGE DETAIL

DRAWN BY: ENG. DEPT.

2-PIECE COMPRESSION EDGE

SCALE: NONE

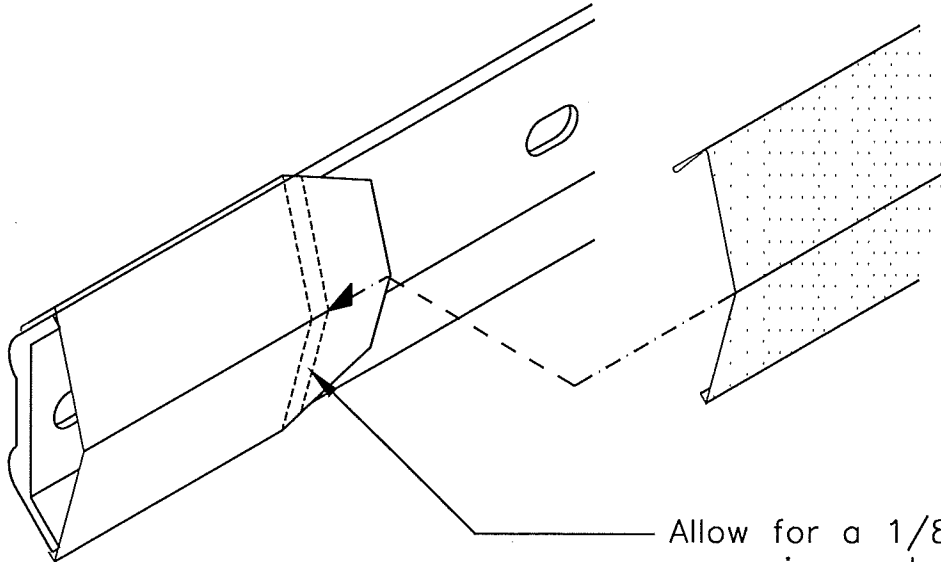
NEW CONSTRUCTION OR RE-ROOF

© COPYRIGHT 2009



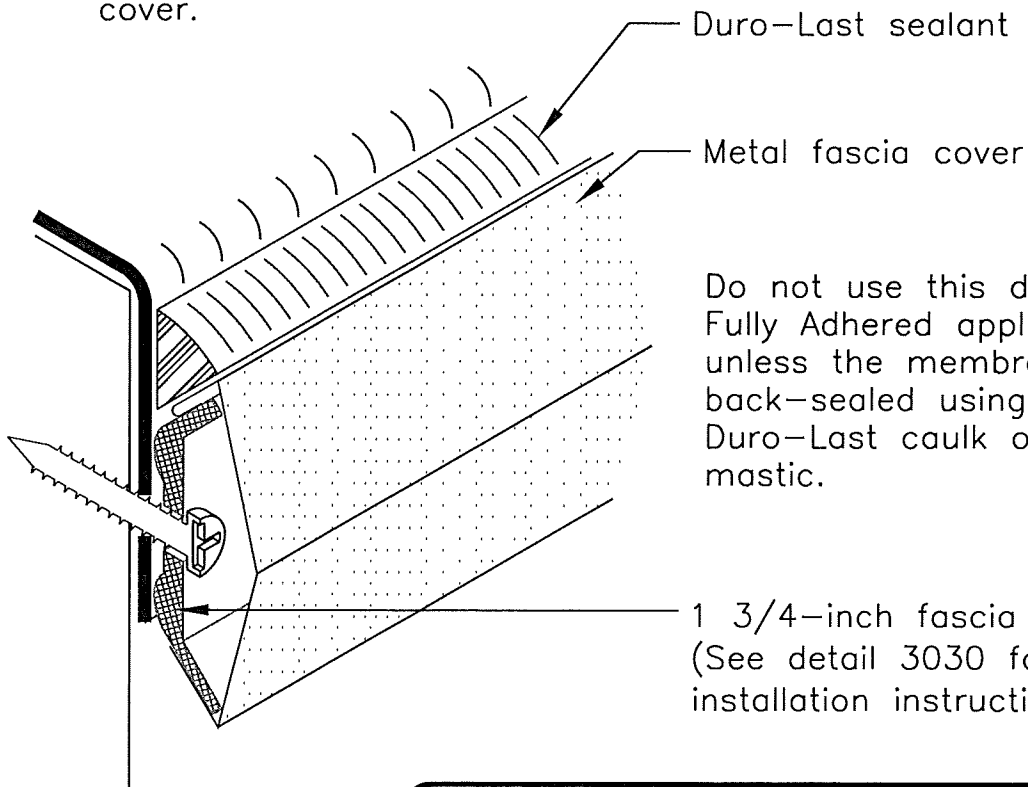
DURO-LAST, INC.  
525 Morley Drive  
Saginaw, MI 48601

DETAIL 3500



Allow for a 1/8-inch gap for expansion and contraction. (Expansion tab must install beneath the next installed piece)

Note: Joints on the fascia bar must be offset by a minimum of 12-inches from the joints in the fascia cover.



Do not use this detail for Fully Adhered applications unless the membrane is back-sealed using Duro-Last caulk or strip mastic.

1 3/4-inch fascia bar  
(See detail 3030 for installation instructions)

© COPYRIGHT 2009

DATE: JANUARY 2009

METAL EDGE DETAIL

DRAWN BY: ENG. DEPT.

1 3/4-INCH METAL FASCIA SYSTEM

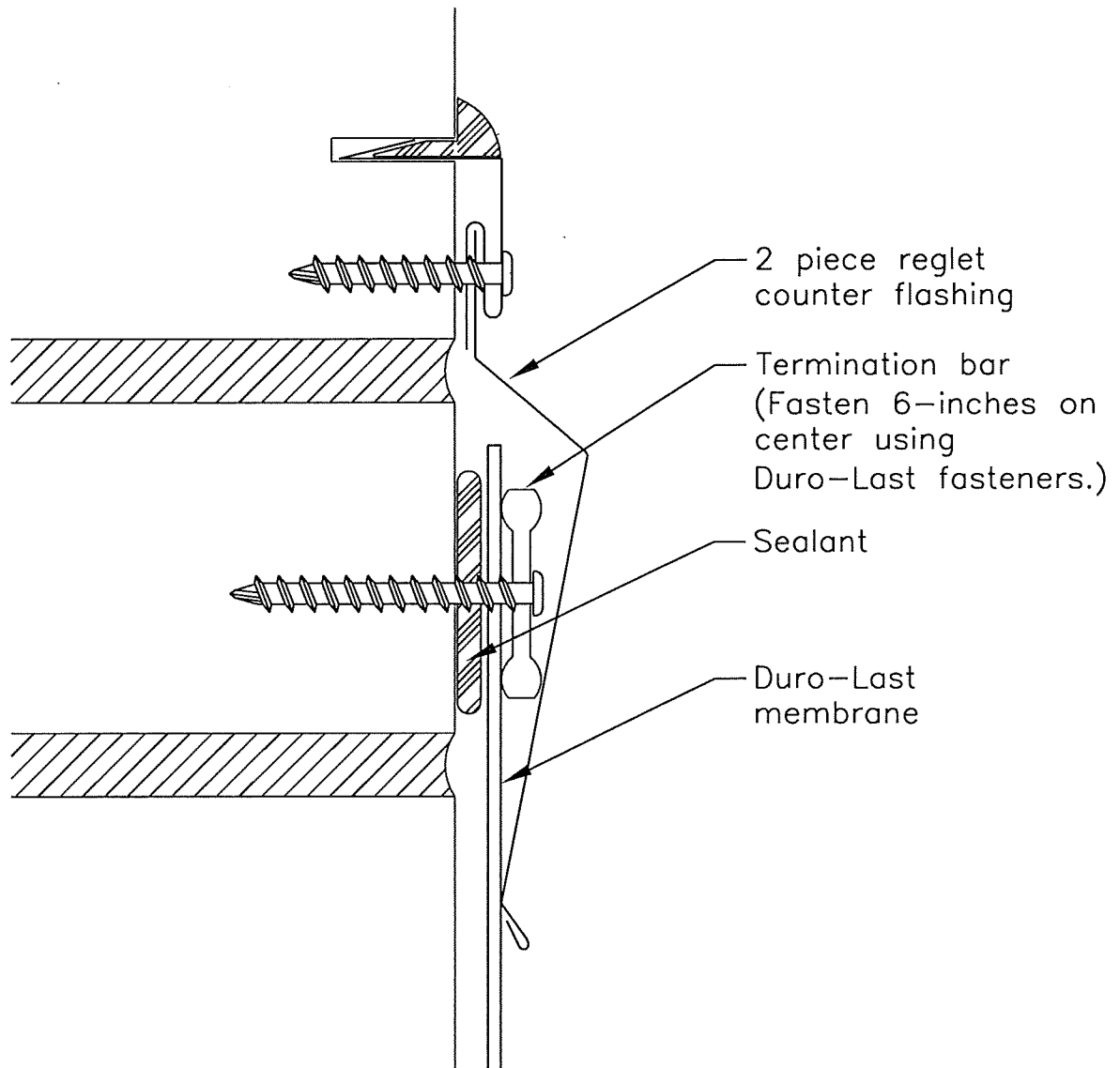
SCALE: NONE

NEW CONSTRUCTION OR RE-ROOF



DURO-LAST, INC.  
525 Morley Drive  
Saginaw, MI 48601

DETAIL 6145



Note 1: This detail is only applicable to concrete or block walls.

Note 2: Membrane must terminate 8-inches (min.) from the surface of the roof.

© COPYRIGHT 2009

DATE: JANUARY 2009

DRAWN BY: ENG. DEPT.

SCALE: NONE

PARAPET WALL DETAIL

REGLET COUNTERFLASHING

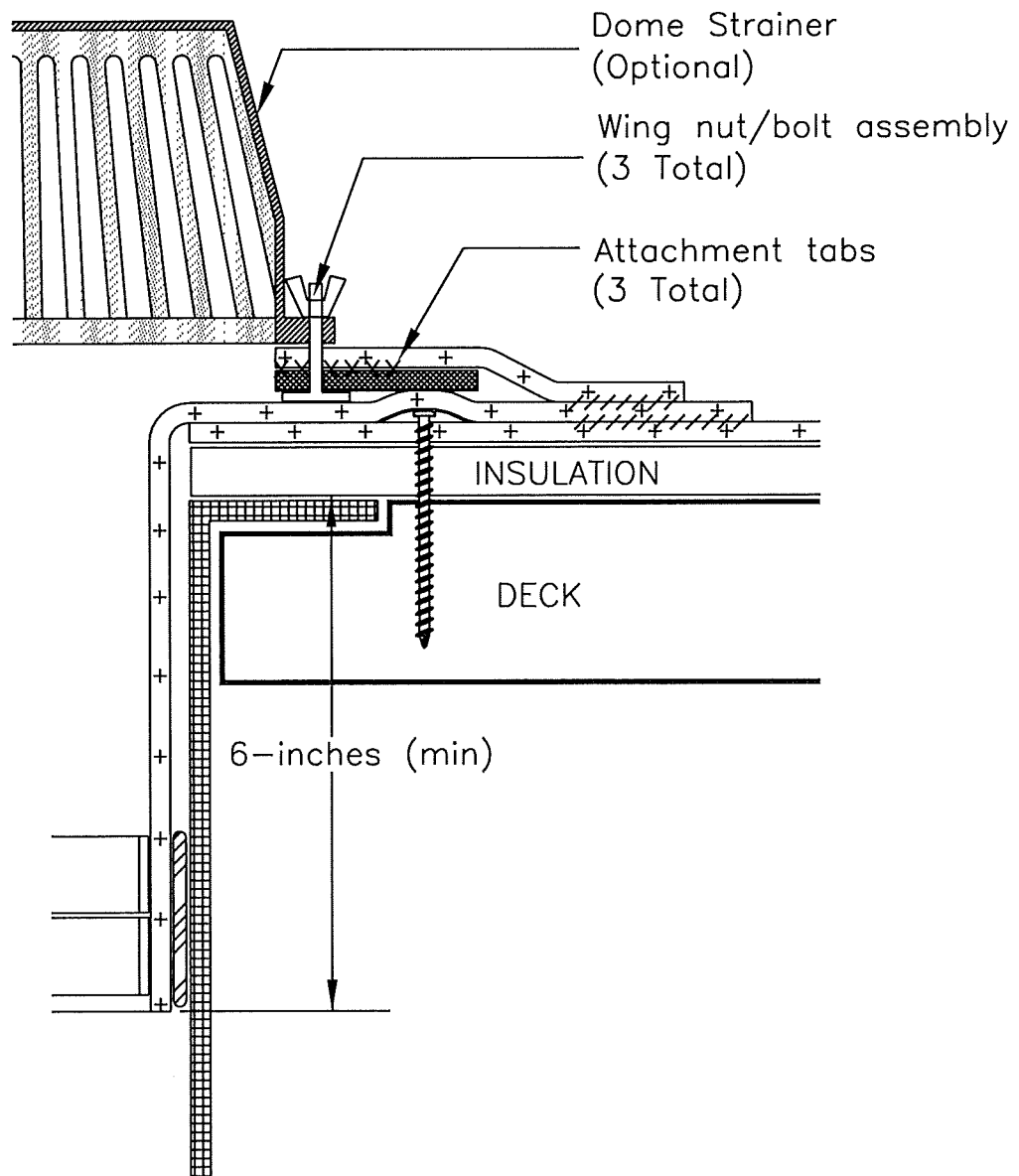
NEW CONSTRUCTION OR RE-ROOF



## DURO-LAST, INC.

525 Morley Drive  
Saginaw, MI 48601

DETAIL 2021



Note 1: Dome Strainer attachment tabs are secured to the roof membrane by heat welding.

Note 2: See Detail 2020 for drain installation instructions.

Note 3: Dome Strainers shall be used with roof drains 6-inches in diameter or less, but should never be used on any drain pipe greater than 6-inches in diameter.

© COPYRIGHT 2009

DATE: JANUARY 2009

DRAWN BY: ENG. DEPT.

SCALE: NONE

DRAINAGE DETAILS

ROOF DRAIN DOME STRAINER

NEW CONSTRUCTION OR RE-ROOF