

## **SECTION 00100**

### **INSTRUCTIONS TO BIDDERS**

#### **1.0 DEFINED TERMS**

- A. The term “Bidder” means one who submits a bid directly to Owner, as distinct from a sub-bidder, who submits a bid to a Bidder. The term “Successful Bidder” means the lowest, qualified, responsible and responsive Bidder to whom Owner (on the basis of Owner’s evaluation as hereinafter provided) makes an award. The term “Bidding Documents” includes the Invitation to Bid, Instructions to Bidders, the Bid Form, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

#### **2.0 COPIES OF BIDDING DOCUMENTS**

- A. Complete sets of Bidding Documents must be used in preparing Bids; Owner assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

#### **3.0 QUALIFICATIONS OF BIDDERS**

- A. All Bidders must be licensed in accordance with state Law of Alabama.
- B. Bidder and/or subcontractors to Bidder must be qualified to perform the disciplines of work described in this Project Manual.
- C. Upon request by Owner, Bidder shall submit evidence that he and his subcontractors meet the qualification requirements of each discipline of work.

#### **4.0 EXAMINATION OF CONTRACT DOCUMENTS AND SITE**

- A. It is the responsibility of each Bidder before submitting a Bid, to (a) examine the Contract Documents thoroughly, (b) visit the site to become familiar with local conditions that may affect cost, progress, performance or furnishing of the Work, (c) consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work, (d) study and carefully correlate Bidder’s observations with the Contract Documents, and (e) notify Owner of conflicts, errors or discrepancies in the Contract Documents in writing prior to Bid.
- B. Before submitting a Bid, each Bidder will be responsible to make or obtain such explorations, tests and data concerning physical conditions at or contiguous to the site, or which otherwise may affect cost, progress, performance or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing

and furnishing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

- C. On request in advance, Owner may provide any Bidder access to the site to conduct such explorations and tests as each Bidder deems necessary for submission of a Bid. Such tests shall not interfere with normal operations or safety and shall include appropriate clean-up following tests.
- D. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of the Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents, utilizing Contractor's means, methods, techniques, sequences or procedures of construction, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

## **5.0 INTERPRETATIONS AND ADDENDA**

- A. All questions about the meaning or intent of the Contract Documents are to be directed to Owner. Interpretations or clarifications considered necessary by Owner in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Owner as having received the Bidding Documents. Questions received less than four days prior to the date for opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral interpretations or clarifications will be without legal affect.
- B. Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner.

## **6.0 BID FORM**

- A. The Bid Form is included within the Bidding Documents; additional copies may be obtained from Owner.
- B. All blanks on the Bid Form must be completed legibly in black ink or by typewriter.
- C. Bids by corporations must be executed in the corporate name by the president or a vice president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or assistant secretary. The corporate address and state of incorporation must be shown below the signature.

- D. Bids by partnerships must be executed in the partnership name and signed by a general partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.
- E. All names must be typed or printed below the signature.
- F. The Bid shall contain an acknowledgement of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).
- G. The address and telephone number for communications regarding the Bid must be shown.

## **7.0 SUBMISSION OF BIDS**

- A. Bids shall be submitted at the time and place indicated in the Invitation to Bid and shall be enclosed in an opaque sealed envelope, and accompanied by the other required documents.
- B. All bidders **must** use the Shelby County form for submitting their bid.
- C. No bids shall be accepted after the time stated for receipt of bids. This requirement shall not be waived.
- D. Bids **must** be sealed and marked in the lower left-hand **“BID-Re-Roofing Project – Courthouse” with opening date and time**. Records showing successful bidder(s) and prices quoted will be placed on file and may be examined upon request. If contract is awarded to a contractor other than the lowest bidder, a note of explanation will appear in the bid file and the Commission Minutes.

## **8.0 MODIFICATION AND WITHDRAWAL OF BIDS**

- A. Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

## **9.0 OPENING OF BIDS**

- A. Bids will be opened publicly and read.

## **10.0 BIDS TO REMAIN SUBJECT TO ACCEPTANCE**

- A. All bids will remain subject to acceptance for sixty (60) days after the Bid opening.

No bid may be withdrawn during this time.

## **11.0 BONDS**

- A. Bidder must submit with his Bid a Bid Bond in the amount of 5% of the Base Bid or \$10,000 whichever is less, made payable to Shelby County Commission on the approved Bond Form.
- B. Successful Bidder shall submit Performance and Payment Bonds on the approved Bond Form, each in an amount equal to 100% of the Contract Price when the Agreement is executed.

## **12.0 COMPANY PROFILE**

- A. Not Used.

## **13.0 AWARD OF CONTRACT**

- A. Owner reserves the right to reject any and all Bids, to waive any and all informalities, and to reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Discrepancies in the multiplication of units of work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.
- B. In evaluating Bids, Owner will consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, response time, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- C. Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors, Suppliers and together persons and organizations to perform and furnish the work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time. Bidder shall fully cooperate with Owner by providing references, and contact information when requested.
- D. If the contract is to be awarded, it will be awarded to the lowest responsible Bidder whose evaluation by Owner indicated to the Owner that the award will be in the best interest of the Project.
- E. If the contract is to be awarded, Owner will give the Successful Bidder a Notice of Award within sixty (60) days after the date of the Bid opening.

**END OF SECTION 00100**

## **SECTION 01010**

### **SUMMARY OF WORK**

#### **PART 1 GENERAL**

##### **1.01 DESCRIPTION**

- A. Shelby County Commission intends to engage a Contractor to remove the existing river gravel ballast from the existing Courthouse, and install a new roof system and ancillary items.
- B. The Courthouse is located at 112 North Main Street in Columbiana, Alabama. The roof of the existing building covers approximately 18, 000 square feet. **The existing membrane is a ballasted bituminous built-up system over rigid insulation board.**
- C. Contractor may subcontract any phase or portion of the work. However, such subcontract shall not relieve Contractor from any quality and safety standards during any phase of the work. Require and verify that all materials and methods used by subcontractors are consistent with the requirements of the Contract Documents.

##### **1.02 WORK INCLUDED**

- A. Removal of existing gravel ballast, membrane, insulation, base flashing, deteriorated lumber, unused equipment and curbs, and ancillary items.
- B. Closure of unused openings in the roof, and installation of insulations and roofing membrane at these locations.
- C. Construction of new wood curbs with new treated wood. The Lump Sum Base Bid and Contract Sum shall include 1000 board feet of installed new treated wood. The final Contract Sum shall be adjusted (plus or minus), using field measured quantities and Contractor's supplied unit rate, for the actual amount of wood used for nailers and curbs.
- D. Installation of new flat insulation and single-ply roof system, installation of ancillary items.
- E. Installation of walkpads around equipment and to the roof scuttle.
- F. Cleaning of work area.

##### **1.03 SCHEDULE OF COMPLETION OF WORK**

- A. Time is of the essence for this Contract.
- B. Bidder shall state in his Bid how much time, in calendar days, he requires to complete the Project. This proposed time shall become the Project time.
- C. Contractor is responsible for the timely ordering and procurement of materials. If for any reason, Contractor's chosen vendor cannot deliver products in a timely manner, Contractor is responsible for finding another

vendor (acceptable to Owner) from which to purchase the products at no additional cost to Owner.

- D. Should the contractor be delayed by the Owner in any form, contractor's sole recourse shall be an extension of the contract completion date. Under no circumstances shall contractor receive compensation for delay.

#### **1.04 SUBMITTALS**

- A. Upon request by Owner, Bidder shall submit a proposed Schedule of Values that breaks down his lump sum Bid price, showing labor, material and equipment in the Project.
- B. Upon request by Owner, Bidder shall submit a bar chart schedule of time consistent with the Schedule of Values, and he shall submit a list of proposed subcontractors.
- C. Contractor shall submit three complete, bound sets of required submittals to Owner at or before the pre-construction meeting. Do not order materials to be incorporated into the Project until the submittal for that material has been approved by Owner. Include in this submittal a bar chart schedule, Schedule of Values and final list of subcontractors.
- D. Do not submit illegible facsimiles and reproductions; they will not be considered for review.

#### **1.05 MEETINGS**

- A. Owner reserves the right to call on-site meetings as is dictated by the progress of the work. The meeting shall be attended by Owner, Contractor, and by Subcontractors and suppliers when appropriate.

#### **1.06 OWNER-FURNISHED ITEMS**

Not Used.

#### **1.07 WORK SEQUENCE**

- A. The sequence of activities shall be the responsibility of Contractor as long as the requirements of these specifications are met and Contractor is progressing according to the schedule approved by Owner.

#### **1.08 CONTRACTOR'S USE OF PREMISES**

- A. Access to the roof to be re-roofed is limited. The contractor is responsible for coordinating access to the roof with the Owner and for mobilization/demobilization of all equipment necessary to transport materials to and from the roof.
- B. All of Contractor's operations on Owner's premises, including the storage of materials, shall be confined to areas approved by Owner.

## **1.09 SITE AND BUILDING ACCESS**

- A. Locate all staging and access equipment, materials, assemblies, debris removal/disposal equipment, debris and removed material, and all other material involved in this project at locations off site.
- B. Contractor parking area shall be as indicated by the Owner. On-site parking will not be allowed.
- C. Contractor shall be prohibited from entering buildings. Work and access shall not cause any disruption to building usage. **Contractor shall give advance notice and receive permission from the Owner for building access.**
- D. Due to courtroom proceedings certain elements of work may be required to be suspended temporarily due to noise interference. Contractor shall anticipate this and adjust work schedule as necessary.
- E. Schedule the work and arrange materials storage in a manner to leave the site unencumbered and allow normal activities to proceed uninterrupted.
- F. Contractor shall supply a portable toilet for use by his employees on site.

## **1.10 SPECIAL REQUIREMENTS**

- A. Protect buildings, building components, roads, approaches, and parking areas from damage, staining or defacing due to the work under this Contract. Correct or replace damaged materials or finishes to match with and be indiscernible from existing surfaces.
- B. Building entrances and exits shall not be closed off or made inaccessible. Do not block or restrict drives or parking areas. Barriers and restrictions shall be approved in advance by Owner and local authorities having jurisdiction. During times of high winds, do not work with materials subject to being wind blown. Contractor shall be responsible for all damage caused by his activities.
- C. Protect roof decking from overload during construction. Do not store more material on roof than will be used in one day.
- D. Protect building from rain or water leakage during the course of the work. On a daily basis, do not begin tear off or otherwise expose more roof area than can and will be re-roofed and made watertight on the same day. Openings shall not be left unprotected overnight.
- E. Protect building interior and contents from dust and debris which may enter building. Coordinate with Occupant and Owner on a daily basis to provide protection for areas to be re-roofed. Contractor shall be responsible for providing necessary protection.
- F. Project Security: Coordinate security requirements with Owner. Contractor shall be solely responsible for security of all materials stored on-site. During construction, Contractor shall be responsible for security of project.

- G. Maintenance of existing road and approaches: Maintain public and private roads, drives, and parking areas adjacent to the site, and that approaches to the site and at the entrance(s) to construction limits free of dust, debris, and construction materials. Comply with applicable local codes.
- H. This facility will remain open to the public during the entire duration of the project. Workmen shall not speak or behave/act in an offensive manner. Contractor will remove any workman from the site at the Owners request.

### **1.11 PERSONNEL PROTECTION**

- A. Contractor acknowledges and agrees that he is solely responsible for enforcing worker protection requirements at least equal to those required by Federal, State, and local regulations.

### **PART 2 PRODUCTS**

Not Used

### **PART 3 EXECUTION**

#### **3.01 WARRANTY**

- A. The Contractor shall provide a warranty to guarantee the roofing and associated work (including but not limited to all new flashing and counter flashing, new roof membrane, all new material used as a roof substrate or insulation over which the roof is applied, and new metal work) to be absolutely watertight and free from all leaks due to faulty or defective materials and workmanship for a period of five years starting on the date of final acceptance by the Owner. This guarantee does not include liability for damage to interior contents of building due to roof leaks.
- B. The Contractor and roofing materials manufacturer shall provide to the Owner warranties specified in Section 07535 of this specification, as appropriate.

**END OF SECTION 01010**



## **SECTION 02050 SELECTIVE DEMOLITION**

### **PART 1 GENERAL**

#### **1.01 SUMMARY OF WORK**

- A. Remove and dispose of existing roof gravel ballast, membrane, insulation and base flashing.
- B. Remove and dispose of rotten or deteriorated lumber including wood nailers, curbs and other blocking.
- C. Remove and dispose of unused penetrations as designated on the drawings.

#### **1.02 EXISTING ROOF WATERPROOFING MATERIALS**

- A. There appears to be a 3-ply asphalt built-up membrane with river gravel ballast, on top of board insulation, on the subject building.
- B. The roof system has been sampled for asbestos. **The Contractor may, at his own expense, sample and analyze whatever materials he suspects to be asbestos-containing.** Limited Roof Surveys were performed by MACTEC on April 1, 2010. Copies of the reports will be provided to the contractor upon request.

### **PART 2 PRODUCTS**

Not Used

### **PART 3 EXECUTION**

#### **3.01 PREPARATION**

- A. Contractor shall coordinate with Owner to locate chutes, cranes, boom trucks, dumpsters and other equipment that could interfere with the normal operation of the facility. The normal operation of the facility must not be impacted by contractors operations at the site.
- B. Contractor shall shield any cable trays, equipment or other items susceptible to damage from falling debris.

#### **3.02 DEMOLITION**

- A. Do not remove more wood nailer or base flashing than the Contractor can re-install in the same day. Make the entire roof watertight at the end of each workday.
- B. Contractor is responsible for transporting and disposing of the demolition debris off site to a regulated landfill.

**END OF SECTION 02050**

## **SECTION 06100 ROUGH CARPENTRY**

### **PART 1 GENERAL**

#### **1.01 SUMMARY OF WORK**

- A. Install new nailers as required to complete the installation of new roof systems. Check fasteners in existing wood and add fasteners as required to meet performance requirements.
- B. Existing wood nailers and blocking will be examined by Contractor and Owner as it is exposed. Existing wood in good condition will remain in place. New wood will be installed to replace deteriorated wood, or where currently missing, or where new crickets, etc., require additional wood.

#### **1.02 BASIS FOR PAYMENT**

- A. Bidder shall include the installation of 1000 board feet of new wood nailers in the Lump Sum Bid As an allowance.
- B. The Lump sum Bid will be adjusted, at the end of the Project, to account for the actual amount of the new wood used on the Project. Bidder will include in his Bid an ADD/DEDUCT Unit Price (dollars per board foot) that will be used to adjust the final Contract Price.
- C. Contractor and Owner will document the amount of new wood used on a daily basis.

#### **1.03 SUBMITTALS**

- A. Contractor shall submit a list of all materials to be used, including lumber, nails, screws, etc., to Owner for approval prior to commencing the work. Submit product literature from the wood preservative treater, including instructions for treating exposed edges after cutting and Material Safety Data Sheets.

### **PART 2 PRODUCTS**

#### **2.01 LUMBER**

- A. No. 2 Grade Yellow Pine, pressure treated with waterborne salt preservatives, Wolman Osmose K-33, or equivalent, 0.25 pounds per cubic foot of preservative.
- B. Sizes (except as otherwise indicated on the drawings):
  - 1. Nailers – nominal 2-inch by 6-inch minimum.
  - 2. Cants – nominal 4-inch by 4-inch.
  - 3. Curbs – nominal 2-inch by 8-inch.

## **2.02 FASTENERS**

- A. Provide galvanized nails, bolts, nuts, screws and other fasteners as necessary to achieve specified pull-out resistance for complete installation.
- B. Nailer to nailer, curb to curb – 10 penny common nail.
- C. Use of powder actuated, explosive cartridge fasteners is not allowed.

## **PART 3 EXECUTION**

### **3.01 PREPARATION**

- A. Examine existing wood members as they are exposed. Remove deteriorated members. Add fasteners as needed.
- B. Clean the deck where new wood will be installed. Remove or work around minor obstructions.

### **3.02 INSTALLATION**

- A. Nailers:
  - 1. Firmly anchor nailers to the deck or existing nailers at a maximum of 2 feet on center. Nailers must resist a pullout force of 75 pounds per lineal foot in any direction. Provide a ½ inch air gap between ends of nailers.
- B. Curbs: Install level and plumb. Fasten securely to substrate and nailer.

**END OF SECTION 06100**

# **SECTION 07535**

## **MECHANICALLY ATTACHED SINGLE-PLY ROOF SYSTEM**

### **PART 1 GENERAL**

#### **1.01 SUMMARY OF WORK**

- A. System Description: Furnish and install a complete roofing system utilizing a mechanically attached, white single-ply roofing membrane.
- B. Metal Work:
  - 1. Installation of new coated metal edge, and new metal flashing.
  - 2. Installation of new pitch pockets and pipe penetrations.
  - 3. Other miscellaneous metal items.

#### **1.02 QUALITY ASSURANCE**

- A. The roofing installation shall be performed by an installer who is qualified and experienced in single-ply roofing, and who has been trained and certified by the roofing system manufacturer.
- B. Upon completion of the roofing installation, the entire roof will be inspected to verify compliance with the manufacturer's requirements by a Technical Representative of the manufacturer.

#### **1.03 SUBMITTALS**

- A. Prior to the start of the project, Contractor shall submit to Owner certification that the proposed system complies with the project specifications, and a letter of certification from the roofing system manufacturer that Contractor is an approved applicator.
- B. Contractor shall submit completed warranty request form for approval by the manufacturer, along with additional specifications and drawings required by the manufacturer.
- C. Contractor shall submit to Owner Material Safety Data Sheets for all materials, and a sample of roof membrane, flashing, termination bar, coated metal, fasteners, adhesives, sealants, and insulation.
- D. Shop drawings for metal work: Show profile, joining method, location of accessory items, anchorage and flashing details, adjacent construction interface, and dimensions.

#### **1.04 PRODUCT DELIVERY STORAGE, AND HANDLING**

- A. Deliver all material with the manufacturer's labels intact and legible. Inspect all materials on receipt for damage and verify quantities.
- B. Roofing insulation, membrane, and accessories shall be stored and protected so they will remain dry and undamaged until installation.

Sealants and adhesives must be stored in an area that can maintain a temperature range of 50 F – 80 F and should be away from sparks and open flames.

- C. Roofing materials temporarily stored on the roof shall be distributed in such a fashion so as not to overload the roof structure. Material handling equipment shall be selected and operated so as to prevent damage to the existing construction or applied roofing.
- D. Wet or damaged materials shall be marked and permanently removed from the project site.

#### **1.05 JOB CONDITIONS**

- A. The roof deck will be rigid, clean, smooth, free from cracks, holes and sharp changes in elevation, free from oil, grease, ponded water, frost, snow (ice), and foreign substances.
- B. All drains, curbs, perimeter walls, and roof penetrating components shall be in place prior to installing insulation and roof membrane.
- C. No installation of insulation, roofing membrane or flashings shall occur during inclement weather (i.e. rain, snow, high winds, etc.)
- D. Install only as much new insulation and membrane as can be covered and made watertight on the same day.
- E. All roofing shall be completed without exposing the building interior, its contents, or occupants to inclement weather. Contractor assumes all responsibility for maintaining the building in a dry condition during the project.

#### **1.06 SEQUENCING AND SCHEDULING**

- A. Start at the high point on the roof and shingle lap joints in accordance with good roofing practice, whenever possible.
- B. Arrange work to avoid utilizing newly installed membrane for storage areas. If unavoidable, proper protection shall be provided for the new membrane so as to avoid damage.
- C. Work or materials damaged by the handling or the installation of roofing materials shall be restored to original condition, or shall be replaced with new materials by Contractor.

#### **1.07 WARRANTY**

- A. Upon successful completion, final inspection, and acceptance of the roofing project, the membrane manufacturer shall issue the warranty. The warranty shall be a 20-year full-system manufacturer's warranty to cover watertightness of roofing system, including membrane, insulation, fasteners, metal and membrane flashings, and accessories. Warranty shall cover all costs of repair, including complete replacement, if necessary.

- B. In addition to the above, all work included in this contract shall be guaranteed in writing by Contractor for a minimum period of five years from the date of completion and acceptance by Owner. This guarantee shall cover all materials and labor, to promptly make repairs to any and all leaks when reported by Owner to Contractor.
- C. Warranties shall not take effect before date of Final Completion.
- D. At the time of issuance of the warranty, a full set of instructions shall be included detailing preventative maintenance and noting a list of harmful substances which may damage the roofing membrane.

## **PART 2 PRODUCTS**

### **2.01 GENERAL**

- A. All products for roofing will be manufactured or approved in writing by the membrane manufacturer. Any products to be used in conjunction with the roofing system, which are not supplied by the manufacturer, shall be submitted for review and acceptance by the manufacturer.
- B. The roofing system, including membrane, insulation, and perimeter attachment shall meet requirements of Underwriters Laboratories (UL) Class A fire resistance, and shall be listed for wind uplift rating in accordance with FM 1-90.

### **2.02 MEMBRANE**

- A. Contractor may choose one of the following:
  - 1. Duro-Last, Inc. Duro-Last 50 mils.
  - 2. Sarnafast system, with Sarnafil S327-12 membrane, as manufactured by Sarnafil Inc. – 60 mils.
  - 3. Johns Manville, Inc. Ultragard SR-60 and 80 mils.
  - 4. Color of membrane is white.

### **2.03 INSULATION**

- A. Insulation shall be rigid isocyanurate foam, approved by the membrane manufacturer.
- B. Insulation shall be installed in one layer, with a total thickness of 1 ½ inches.
- C. Crickets shall be constructed of tapered isocyanurate insulation, ¼:12.

### **2.04 FLASHING MATERIALS AND FASTENING COMPONENTS**

- A. Flashing membranes and metal shall be those specified and recommended by the roofing membrane manufacturer. Fascia height of metals shall be

the same as existing metal. Color of coated metal shall be selected by Owner from manufacturer's standard colors.

- B. Fasteners and fastening methods for membrane, flashings and metal shall be in accordance with the manufacturer's requirements, and shall meet uplift requirements of FM 1-90.

## **2.05 WALK PADS**

- A. Johns Manville, Duro-Last, Sarnafil or approved equal specified walkpads.

## **2.06 PIPE SUPPORTS**

- A. Pillow Block pipestands, Models 1.5, 1.5 Spacer, and 3-R, by MIRO Industries, Inc., installed at a maximum spacing of 6 feet, bearing on a strip of SOPRAWALK larger than the footprint of the pipestand.

# **PART 3 EXECUTION**

## **3.01 PREPARATION – SUBSTRATE**

- A. The substrate shall be smooth, and free of debris, sharp edges and any other surface irregularities that would interfere with the installation of the new roofing system.
- B. Clean all exposed metal surfaces such as pipes, pipe sleeves, drains, by removing loose paint, rust and residual asphalt. Remove and discard lead sleeves at soil stacks.

## **3.02 INSULATION INSTALLATION**

- A. The prepared substrate shall be smooth, clean and free of defects.
- B. The insulation shall be loose laid with the longest dimension perpendicular to the long dimension of the membrane rolls.
- C. All joints shall be staggered with gaps no larger than 1/4-inch.
- D. Taper roof insulation to roof gutters and drains using tapered edge strips.
- E. Crickets shall be installed uphill of all curbs wider than 15 inches, sloped to prevent water accumulation.

## **3.03 MEMBRANE INSTALLATION**

- A. Membrane shall be attached with fastener spacing in accordance with the manufacturer's recommendations to achieve a minimum uplift for FM 1-90 rating.

- B. Flashing: Flashing at the roof perimeter edges and at all penetrations including drains, pipes, conduits, curbs, walls, expansion joints, and vents shall be installed as shown on manufacturer's standard details.
- C. Seam Welding:
  - 1. All membrane to be welded must be clean, dry and free of contamination from adhesive or other substances.
  - 2. All field seams are to a minimum of 1 ½ inches wide. Hand held welders are to be used for all detail work, while the automatic welder should be used on all long, continuous field welds when possible.
  - 3. Visual inspections of the seams shall be ongoing for all obvious defects, with physical inspections performed on a daily basis, with a dull pointed tool, such as a cotter-key extractor.

### **3.04 WALKPADS**

- A. Installation shall be by hot-air welding the perimeter of the walkpad to the deck membrane. Walkpads shall be installed around rooftop units, other traffic areas, and beneath mechanical equipment, conduit, pipe, and refrigerant line supports.
- B. Contractor shall include in his bid furnishing and installing 250 linear feet of walkpad (mfg. standard width). The Engineer will specify the location of walkpads during the course of the work.

### **3.05 OTHER DETAILS**

- A. All detail work will be done in accordance with the requirements of the roof membrane manufacturer, and in accordance with NRCA construction details (Fourth Edition), whichever is more strict and applicable as determined by Engineer.

### **3.06 MANUFACTURER'S WARRANTY**

- A. Upon notification of completion of the project, the membrane manufacturer will schedule a Technical Representative to thoroughly inspect the roof installation, to verify compliance with the manufacturer's specifications and requirements.
- B. Upon completion of the inspection and completion of any repairs or other corrections, a warranty will be issued in accordance with the Project Specifications.

**END OF SECTION 07535**