



Presque Isle County Jail 2019 Roofing Project

PART 1 GENERAL

1.01 DESCRIPTION

- A. The Presque Isle County Jail is located at 267 North 2nd Street in Rogers City Mi. Scott Ash, Head Custodian, is the Owner's Representative and may be contacted regarding any questions or for a pre-bid job site inspection, phone 1-989-306-0948.
- B. The projects basis of design consists of installing Versico's 60mil VersiWeld (TPO) Adhered Roofing System as outlined below:

Apply the VersiWeld Adhered Roofing System in conjunction with Polyisocyanurate after tear off of the existing roof to expose the concrete deck for verification of suitable substrate as specified in this specification.

1.02 EXTENT OF WORK

- A. Provide all labor, material, tools, equipment, and supervision necessary to complete the installation of the VersiWeld reinforced TPO (Thermoplastic Polyolefin) reinforced membrane Adhered Roofing System including flashings and insulation, Tapered saddles between drains and hinged target sumps, to promote positive drainage, as specified herein and as indicated in accordance with the manufacturer's most current specifications and details.
- B. The roofing contractor shall be fully knowledgeable of all requirements of the contract documents and shall make themselves aware of all job site conditions that will affect their work.
- C. The roofing contractor shall confirm all given information and advise the building owner, prior to bid, of any conflicts that will affect their cost proposal.
- D. Any contractor who intends to submit a bid using a roofing system other than the approved manufacturer must submit for pre-qualification in writing fourteen (14) days prior to the bid date. Any contractor who fails to submit all information as requested will be subject to rejection. Bids stating "as per plans and specs" will be unacceptable.
- E. Replace all existing skylights and skylight curbs
- F. Visually inspect conditions of concrete deck (If deck conditions are not suitable to apply roofing system contact owners representative immediately to discuss solution and change order.)

1.03 SUBMITTALS

- A. Prior to starting work, the roofing contractor must submit the following:



1. Shop drawings showing layout, details of construction and identification of materials.
 2. A sample of the manufacturer's Membrane System Warranty.
 3. Submit a letter of certification from the manufacturer which certifies the roofing contractor is authorized to install the manufacturer's roofing system and lists foremen who have received training from the manufacturer along with the dates training was received.
 4. Certification from the membrane manufacturer indicating the membrane thickness over the reinforcing scrim (top ply membrane thickness) is nominal 15 mil or thicker.
 5. Certification of the manufacturer's warranty reserve.
- B. Upon completion of the installed work, submit copies of the manufacturer's final inspection to the specifier prior to the issuance of the manufacturer's warranty.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the job site in the manufacturer's original, unopened containers or wrappings with the manufacturer's name, brand name and installation instructions intact and legible. Deliver in sufficient quantity to permit work to continue without interruption.
- B. Comply with the manufacturer's written instructions for proper material storage.
1. Store VersiWeld membrane in the original undisturbed plastic wrap in a cool, shaded area. VersiWeld membrane that has been exposed to the elements for approximately 7 days must be prepared with Weathered Membrane Cleaner prior to hot air welding.
 2. Store curable materials (adhesives and sealants) between 60°F and 80°F in dry areas protected from water and direct sunlight. If exposed to lower temperature, restore to 60°F minimum temperature before using.
 3. Store materials containing solvents in dry, well ventilated spaces with proper fire and safety precautions. Keep lids on tight. Use before expiration of their shelf life.
- C. Insulation must be on pallets, off the ground and tightly covered with waterproof materials.
- D. Any materials which are found to be damaged shall be removed and replaced at the applicator's expense.

1.05 WORK SEQUENCE

- A. Schedule and execute work to prevent leaks and excessive traffic on completed roof sections. Care should be exercised to provide protection for the interior of the building and to ensure water does not flow beneath any completed sections of the membrane system.
- B. Do not disrupt activities in occupied spaces.

1.06 USE OF THE PREMISES



- A. Before beginning work, the roofing contractor must secure approval from the building owner's representative for the following:
 - 1. Areas permitted for personnel parking.
 - 2. Access to the site.
 - 3. Areas permitted for storage of materials and debris.
 - 4. Areas permitted for the location of cranes, hoists and chutes for loading and unloading materials to and from the roof.
- B. Interior stairs or elevators may not be used for removing debris or delivering materials, except as authorized by the building superintendent.

1.07 EXISTING CONDITIONS

Are the sole responsibility of the contractor to verify prior to submitting cost bid

1.08 PRECONSTRUCTION CONFERENCE

- A. A pre-bid meeting is not scheduled at this time Contact the owner's representative if there are any questions.
- B. Prior to bid submittal, the roofing contractor should schedule a job site inspection to observe actual conditions and verify all dimensions on the roof. Should access to the roof be needed, the contractor must contact the owner's representative to coordinate an appropriate time.
- C. Bids must be forwarded to the following address no later than 4:30pm on May 6th 2019
- D. Bids must be clearly marked as outlined below

Presque Isle County Clerk
151 E. Huron Street
Rogers City MI, 49779
ATTN: Ann Marie Main
2019 roof project

1.09 TEMPORARY FACILITIES AND CONTROLS

- A. Temporary Utilities:
 - 1. Limited power for construction purposes and lighting are available at the site and will be made available to the roofing contractor.
 - 2. Provide all hoses, valves and connections for water from a source designated by the owner when made available.
 - 3. When available, electrical power should be extended as required from the source. Provide all trailers, connections and fused disconnects.



B. Temporary, Sanitary Facilities

Sanitary facilities will not be available at the job site. The roofing contractor shall be responsible for the provision and maintenance of portable toilets or their equal.

C. Building Site:

1. The roofing contractor shall use reasonable care and responsibility to protect the building and site against damages. The contractor shall be responsible for the correction of any damage incurred as a result of the performance of the contract.
2. The roofing contractor shall remove all debris from the job site in a timely and legally acceptable manner so as to not detract from the aesthetics or the functions of the building.

D. Security:

Obey the owner's requirements for personnel identification, inspection and other security measures. Inmates occupy space below. Contractor will be responsible to maintain building security at all times including but not limited to skylight removal and replacement. Notify owner 24hrs in advance of any potential risks.

1.10 JOB SITE PROTECTION

- A. The roofing contractor shall adequately protect building, paved areas, service drives, lawn, shrubs, trees, etc. from damage while performing the required work. Provide canvas, boards and sheet metal (properly secured) as necessary for protection and remove protection material at completion. The contractor shall repair or be responsible for costs to repair all property damaged during the roofing application.
- B. During the roofing contractor's performance of the work, the building owner will continue to occupy the existing building. The contractor shall take precautions to prevent the spread of dust and debris, particularly where such material may sift into the building. The roofing contractor shall provide labor and materials to construct, maintain and remove necessary, temporary enclosures to prevent dust or debris in the construction area(s) from entering the remainder of the building.
- C. Do not overload any portion of the building, by either use of or placement of equipment, storage of debris, or storage of materials.
- D. Protect against fire and flame spread. Maintain proper and adequate fire extinguishers.
- E. Take precautions to prevent drains from clogging during the roofing application. Remove debris at the completion of each day's work and clean drains, if required. At completion, test drains to ensure the system is free running and drains are watertight. Remove strainers and plug drains in areas **where work is in progress**. Install flags or other telltales on plugs. Remove plugs each night and screen drain.
- F. Store moisture susceptible materials above ground and protect with waterproof coverings.
- G. Remove all traces of piled bulk material and return the job site to its original condition upon completion of



the work.

1.11 SAFETY

The roofing contractor shall be responsible for all means and methods as they relate to safety and shall comply with all applicable local, state and federal requirements that are safety related. **Safety shall be the responsibility of the roofing contractor.** All related personnel shall be instructed daily to be mindful of the full time requirement to maintain a safe environment for the facility's occupants including staff, visitors, customers and the occurrence of the general public on or near the site.

1.12 WORKMANSHIP

- A. Applicators installing new roof, flashing and related work shall be factory trained and approved by the manufacturer they are representing.
- B. All work shall be of highest quality and in strict accordance with the manufacturer's published specifications and to the building owner's satisfaction.
- C. There shall be a supervisor on the job site at all times while work is in progress.

1.13 QUALITY ASSURANCE

- A. The VersiWeld Membrane Roofing System must achieve a UL Class A.
- B. The membrane must be manufactured by the material supplier. Manufacturer's supplying membrane made by others are not acceptable.
- C. Unless otherwise noted in this specification, the roofing contractor must strictly comply with the manufacturer's current specifications and details.
- D. The roofing system must be installed by an applicator authorized and trained by the manufacturer in compliance with shop drawings as approved by the manufacturer. The roofing applicator shall be thoroughly experienced and upon request be able to provide evidence of having at least five (5) years successful experience installing single-ply TPO roofing systems and having installed at least one (1) roofing application or several similar systems of equal or greater size within one year.
- E. Provide adequate number of experienced workmen regularly engaged in this type of work who are skilled in the application techniques of the materials specified. Provide at least one thoroughly trained and experienced superintendent on the job at all times roofing work is in progress.
- F. There shall be no deviations made from this specification or without the prior written approval of the specifier. Any deviation from the manufacturer's installation procedures must be supported by a written certification on the manufacturer's letterhead and presented for the specifier's consideration.
- G. Upon completion of the installation, the applicator shall arrange for an inspection to be made by a non-sales technical representative of the membrane manufacturer in order to determine whether or not corrective work will be required before the warranty will be issued. Notify the building owner seventy-two (72) hours prior to the manufacturer's final inspection.



1.14 JOB CONDITIONS, CAUTIONS AND WARNINGS

Refer to Versico's VersiWeld Roofing System specification for General Job Site Considerations.

- A. Safety Data Sheets (SDS) must be on location at all times during the transportation, storage and application of materials.
- B. When positioning membrane sheets, exercise care to locate all field splices away from low spots and out of drain sumps. All field splices should be shingled to prevent bucking of water.
- C. When loading materials onto the roof, the Versico Authorized Roofing Contractor must comply with the requirements of the building owner to prevent overloading and possible disturbance to the building structure.
- D. Proceed with roofing work only when weather conditions are in compliance with the manufacturer's recommended limitations, and when conditions will permit the work to proceed in accordance with the manufacturer's requirements and recommendations.
- E. Proceed with work so new roofing materials are not subject to construction traffic. When necessary, new roof sections shall be protected and inspected upon completion for possible damage.
- F. Provide protection, such as 3/4 inch thick plywood, for all roof areas exposed to traffic during construction. Plywood must be smooth and free of fasteners and splinters.
- G. The surface on which the insulation or roofing membrane is to be applied shall be clean, smooth, dry, and free of projections or contaminants that would prevent proper application of or be incompatible with the new installation, such as fins, sharp edges, foreign materials, oil and grease.
- H. New roofing shall be complete and weather tight at the end of the work day.
- I. Contaminants such as grease, fats and oils shall not be allowed to come in direct contact with the roofing membrane.

1.15 WARRANTY

- A. Provide manufacturer's 20 year Total System Warranty covering both labor and material with no dollar limitation. The maximum wind speed coverage shall be peak gusts of 55, at 10 meters above ground level. Certification is required with bid submittal indicating the manufacturer has reviewed and agreed to such wind coverage.
- B. Pro-rated System Warranties shall not be accepted.
- C. Evidence of the manufacturer's warranty reserve shall be included as part of the project submittals for the specifier's approval.

PART 2 PRODUCTS



2.01 GENERAL

- A. All components of the specified roofing system shall be products of Versico or an approved equal as compatible. Any alternate manufacturer's must be submitted in writing 5 days prior to bid date for approval. No alternate material types will be accepted.
- B. All products (including insulation, fasteners, fastening plates, prefabricated accessories and edgings) must be **manufactured and/or supplied** by the roofing system manufacturer and covered by the warranty.

2.02 MEMBRANE

Furnish VersiWeld 60-mil thick gray, reinforced TPO (Thermoplastic Polyolefin) membrane as needed to complete the roofing system. Membrane thickness over the reinforcing scrim (top-ply thickness) shall be nominal 15 mil thick or greater. Membrane sheets in rolls 10' or 8' wide by 100' long.

2.03 INSULATION/UNDERLAYMENT

- A. When applicable, insulation shall be installed in multiple layers. The first and second layers of insulation shall be mechanically fastened to the substrate in accordance with the manufacturer's published specifications.
- B. Insulation shall be Polyisocyanurate as supplied by Versico. Minimum R-value required is R- 30.
 - 1. **Versico Versicore MP-H Polyiso** – A foam core insulation board covered on both sides with a medium weight fiber-reinforced felt facer meeting ASTM C 1289-06, Type II, Class 1, Grade 2 (20 psi) or Grade 3 (25 psi). The product is available in 4' x 8' standard size with a thickness from 1 to 4 inches. 4' x 4' tapered panels are also available.

2.04 FASTENING COMPONENTS

To be used for mechanical attachment of insulation and to provide additional membrane securement:

A. Fasteners, Plates and Bars

- 1. **MP 14-10 Fasteners:** A #14 threaded fastener with a #3 Phillips drive used for minimum 3,000 psi concrete decks.
- 2. **Term Bar Nail-Ins:** A 1-1/4" long expansion anchor with a zinc plated steel drive pin used for fastening the Versico Termination Bar or Seam Fastening Plates to concrete, brick, or block walls.



3. **HPVX Plates:** A 2-3/8" diameter metal barbed fastening plate used with Versico HPVX or MP-14-10 Fasteners for membrane securement. This plate can be used for insulation securement.

4. **Insulation Fastening Plates:** a nominal 3 inch diameter plastic or metal plate used for insulation attachment.

B. Insulation Adhesive:

1. **Flexible DASH Adhesive:** A two component insulating urethane adhesive used to attach insulation. Packaging formats include 50 and 15 gallon drums as well as Dual Tanks, Dual Cartridges and 5 gallon Jug formats.

2.05 ADHESIVES, CLEANERS AND SEALANTS

All products shall be furnished by Versico and specifically formulated for the intended purpose.

- A. **CAV-GRIP 3V Low-VOC Aerosol Contact Adhesive/Primer:** a low-VOC, methylene chloride-free adhesive that can be used for a variety of applications including: bonding Sure-Weld membrane to various surfaces, enhancing the bond between Versico's VapAir Seal 725TR and various substrates, priming unexposed asphalt prior to applying DASH Adhesive and for adhering VersiWeld/VersiFlex FleeceBACK and VersiWeld TPO membrane to vertical walls. Coverage rate is approximately 2,000-2,500 sq. ft. per 40 lb cylinder and 4,000-5,000 sq. ft. per 85 lb cylinder as a primer, in a single-sided application and 750 sq. ft. per 40 lb cylinder and 1,500 sq. ft. per 85 lb cylinder as an adhesive for vertical walls, in a double-sided application.
- B. **Cut-Edge Sealant:** A white or clear colored sealant used to seal cut edges of reinforced VersiWeld membrane. A coverage rate of approximately 225 - 275 linear feet per squeeze bottle can be achieved when a 1/8" diameter bead is applied.
- C. **Water Cut-Off Mastic:** Used as a mastic to prevent moisture migration at drains, compression terminations and beneath conventional metal edging (at a coverage rate of approximately 10' per tube or 100' per gallon).
- D. **Universal Single-Ply Sealant:** A 100% solids, solvent free, voc free, one part polyether sealant that provides a weather tight seal to a variety of building materials. It is white in color and is used for general caulking such as above termination bars and metal counter flashings and at scuppers.
- E. **Thermoplastic One-Part Pourable Sealer:** A one-part, moisture curing, elastomeric polyether sealant used to fill TPO Molded Pourable Sealant Pockets. Packaged in 4, 2-liter foil pouches inside a reusable plastic bucket. 1 pouch will fill 2 TPO Molded Pourable Sealant Pockets.
- F. **Weathered Membrane Cleaner:** Used to prepare membrane for heat welding that has been exposed to the elements or to remove general construction dirt at an approximate coverage rate of 400 square feet per gallon (one surface).



G. **TPO Primer:** A solvent-based primer used to prepare the surface of VersiWeld Membrane prior to application of Pressure-Sensitive Coverstrip and TPO Pressure-Sensitive RUSS.

H. **TPO Low VOC Primer::** A solvent-based, low solids primer used to prepare the surface of VersiWeld

2.06 METAL EDGING AND MEMBRANE TERMINATIONS

A. **General:** All metal edging s shall be tested and meet ANSI/SPRI ES-1 standards and comply with International Building Code.

1. ANSI/SPRI ES-1 Certified.

B. **Drip Edge:** a metal fascia/edge system with a 22 or 24 gauge continuous anchor cleat and .032 inch thick aluminum or 24 gauge steel fascia. Metal fascia color shall be as designated by the Owner's Representative.

C. **Coping:** incorporates a 20 gauge anchor cleat with 4 pre-slotted holes, a concealed joint cover and 10 foot continuous sections of coping cap; can accommodate minimum 5 “ wide parapet walls. Metal coping cap color shall be as designated by the Owner's Representative.

D. **Termination Bar:** a 1” wide and .098” thick extruded aluminum bar pre-punched 6” on center; incorporates a sealant ledge to support Lap Sealant and provide increased stability for membrane terminations.

E. **Term Bar Fascia:** A 1.75” wide formed aluminum termination bar with pre-slotted fastening holes for ease of locating and installing. The decorative cover is available in 0.040” aluminum or 24-gauge galvanized steel. VersiTrim Term Bar Fascia is manufactured in 12’ lengths for fewer joints/seams, fewer sections to handle and faster installation.

2.07 WALKWAYS

Protective surfacing for roof traffic shall be VersiWeld TPO Walkway Rolls installed per manufacturer’s requirements

2.08 OTHER MATERIALS

A. (Metal Flashing, if required, and miscellaneous items needed to fulfill the project requirements)

PART 3 EXECUTION

3.01 GENERAL

A. Comply with the manufacturer's published instructions for the installation of the membrane roofing system including proper substrate preparation, job site considerations and weather restrictions.



- B. Position sheets to accommodate contours of the roof deck and shingle splices to avoid bucking water.

3.03 INSULATION PLACEMENT AND ATTACHMENT

- A. Install insulation or membrane underlayment over the substrate with boards butted tightly together with no joints or gaps greater than 1/4 inch. Stagger joints horizontally and vertically if multiple layers are provided.
- B. Secure insulation to the substrate with the required Flexible DASH Adhesive in accordance with the manufacturer's specifications.

3.04 MEMBRANE PLACEMENT AND ATTACHMENT

- A. Position VersiWeld membrane over the acceptable substrate. Fold membrane sheet back onto itself so half the underside of the membrane is exposed.
- B. Apply Bonding Adhesive in accordance with the manufacturer's published instructions, to the exposed underside of the membrane and the corresponding substrate area. Do not apply Bonding Adhesive along the splice edge of the membrane to be hot air welded over the adjoining sheet. Allow the adhesive to dry until it is tacky but will not string or stick to a dry finger touch.
 - 1. Roll the coated membrane into the coated substrate while avoiding wrinkles. Brush down the bonded section of the membrane sheet immediately after rolling the membrane into the adhesive with a soft bristle push broom to achieve maximum contact.
 - 2. Fold back the unbonded half of the sheet and repeat the bonding procedures.
- C. Position adjoining sheets to allow a minimum overlap of 2 inches to provide a minimum 1-1/2" hot air weld.
- D. Continue to install adjoining membrane sheets in the same manner, overlapping edges a minimum of 2 inches and complete the bonding procedures as stated previously.

3.05 MEMBRANE HOT AIR WELDING PROCEDURES

- A. Hot air weld the VersiWeld membrane using an Automatic Hot Air Welding Machine or Hot Air Hand Welder in accordance with the manufacturer's specifications. At all splice intersections, roll the seam with a silicone roller immediately after welder crossed the membrane step-off to ensure a continuous hot air welded seam.

Note: When using 60-mil thick or thicker membrane, all splice intersections shall be overlaid with VersiWeld T-joint covers or non-reinforced flashing.

- B. Probe all seams once the hot air welds have thoroughly cooled (approximately 30 minutes).
- C. Repair all seam deficiencies the same day they are discovered.



- D. Apply Cut Edge Sealant on all cut edges of reinforced membrane (where the scrim reinforcement is exposed) after seam probing is complete. Cut Edge Sealant is not required on vertical splices.

3.06 FLASHING

- A. Flashing of parapets, curbs, expansion joints and other parts of the roof must be performed using VersiWeld reinforced membrane. VersiWeld non-reinforced membrane can be used for flashing pipe penetrations, Sealant Pockets, and scuppers, as well as inside and outside corners, when the use of prefabricated accessories is not feasible.
- B. Follow manufacturer's typical flashing procedures for all wall, curb, and penetration flashing including metal edging/coping and roof drain applications.

3.07 WALKWAYS

- A. Install walkways at all traffic concentration points (such as roof hatches, access doors, rooftop ladders, etc.) and all locations as identified on the specifier's drawing.
- B. Hot air weld walkway material to the membrane in accordance with the manufacturer's specifications.

3.08 DAILY SEAL

- A. On phased roofing, when the completion of flashings and terminations is not achieved by the end of the work day, a daily seal must be performed to temporarily close the membrane to prevent water infiltration.
- B. Complete an acceptable membrane seal in accordance with the manufacturer's requirements.

3.09 CLEAN UP

- A. Perform daily clean up to collect all wrappings, empty containers, paper, and other debris from the project site. Upon completion, all debris must be disposed of in a legally acceptable manner.
- B. Prior to the manufacturer's inspection for warranty, the applicator must perform a pre-inspection to review all work and to verify all flashing has been completed as well as the application of all caulking.

END OF SPECIFICATION