REQUEST FOR BID #24-1008
ROOF REPLACEMENT

BID DEADLINE DATE

Friday, April 12, 2024 at 10:00 A.M.

SUBMIT BID TO:

Ashley Weber, Purchasing Coordinator
Montgomery County Intermediate Unit #23
2 West Lafayette Street
Norristown, PA 19401
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Request for Bid #24-1008  
Roof Replacement
The Montgomery County Intermediate Unit #23 (MCIU) is pleased to issue this request for roof replacement at 375 Morris Road, Lansdale, PA 19446. The MCIU is seeking bids from qualified professional organizations.

The bid offerings submitted through this bid are to be firm from execution of contract through completion of project.

Description of Bid Submission

Sealed bids will be received until 10:00 A.M. on Friday, April 12, 2024. Bids must be submitted via mail or hand delivery. All bids must be submitted to the address set forth on the first page of this document, in a sealed envelope, and clearly labeled, “Bid# 24-1008 Roof Replacement”. Only bids received by the deadline date and time will be considered. The MCIU is not responsible for mail delivery delays. Faxed bids will not be considered.

Bids must be typewritten or printed legibly with ink on the included Contractor Bid Forms and must be signed by an authorized official of the vendor. Unsigned, incomplete, or illegible bids will not be considered.

All bids must be guaranteed through completion of the project.

Bids must include the forms outlined in this Invitation to Bid.

An electronic copy of this request and any related materials (including any addenda) will be posted at www.mciu.org/bids. It is the responsibility of the Bidder to visit the website for any addenda prior to bid submission.

Bids will be publicly opened via a hybrid setting at 10:00 A.M. on Friday, April 12, 2024. Bidders or their authorized representatives may appear at the MCIU located at 2 West Lafayette St., Norristown, PA 19401 for the bid opening, or they may be virtually present. The link for the virtual platform will be posted at www.mciu.org/bids.

Scope of Bid

The Bidder should provide a detailed description of the work to be provided. The bid should focus on providing a substantial level of detail to ensure the MCIU that the organization possesses the required skills and support services to achieve the desired results.

A. Single Point of Contact (SPOC)
   The Bidder will be expected to provide a Single Point of Contact (SPOC) to the MCIU, including email and cell phone contact information. The Bidder’s representatives’ duties include, but are
not limited to, providing project timelines and updates, handling any problems with products supplied and any necessary instruction on use and upkeep.

B. Walkthrough of Project
The MCIU will be providing a walkthrough of the project on Monday, April 1, 2024 at 2:00 P.M. at which time vendors may ask questions. Questions asked should also be followed up in writing. Should questions arise at any time outside of the walkthrough, a Request for Information (RFI) must be completed and submitted to Alfred Howard (ahoward@mciu.org), Jonathan Myszak (jonm@prarfg.com), and Ashley Weber (aweber@mciu.org). RFI’s may be submitted until Thursday, April 4, 2024 at 4:00 P.M. All RFI’s will be answered in a timely manner, no longer than 2 business days. All questions and responses will be posted at www.mciu.org/bids.

C. Cost Proposal
The Bidder should ensure that the cost proposal includes all labor, materials, and equipment necessary to complete the work outlined in this bid.

- The MCIU requires the bid prices to include all related fees, including installation & transportation to ensure a fair comparison of the bids can be made. Only submissions provided on the Contractor Bid Form will be accepted.

- The MCIU is exempt from the payment of Federal Excise and State Sales Tax and no such taxes should be included in the bid. Documentation will be made available to the Bidder at the time of contract execution.

- A Purchase order will be issued to the vendor by the MCIU. The purchase order covering all items to be purchased shall constitute a contract binding the Bidder and the entity that issued the purchase order.

- The MCIU reserves the right to accept a higher Bidder should they determine the lowest Bidder is not responsible.

- Upon completion of the project, the Bidder should submit a detailed invoice to the MCIU. The detailed invoice must include all unique line items for portions of the project such as travel, installation, delivery, machine rentals, etc. Partial payments of invoices will not be made. The total amount of the purchase order will be paid only after the project has been completed. Should the vendor require a deposit, it must be clearly noted in the bid and agreed upon by the MCIU.

D. Background Clearances
Members of the Bidder’s team will need to provide all PA Department of Education required background clearances prior to accessing any school buildings. The required background
clearances are outlined below. The Bidder should explain in narrative form the process that will be utilized to obtain and submit the background clearance documents to the School Entity.

- Any and all Contractor staff members who will enter School Property must provide to the School Entity an Act 34 State Police Criminal Records Check, an Act 151 Child Abuse History Clearance, and an Act 114 Federal Criminal History Record Check. Fingerprinting must be obtained under the Department of Education option when registering with Cogent. Department of Human Services fingerprint reports will only be accepted from those Contractors who are licensed by the Department of Human Services. Contractor employees maintaining continuous employment are required to obtain clearances every five years. All clearances must be dated within one year upon the start of services. The School Entity will not be responsible for payment on a Contractor’s invoice, until all clearance documentation is received.

- Providers and employees of such entities are required to report any arrest or convictions of an offense in Section 111 (e) of the PA School Code to their supervisor within 72 hours of any occurrence. The “PDE-6004” should be used to report these arrests or convictions. The Contractor is responsible to immediately forward the “PDE-6004” form upon receipt to MCIU. Providers and their employees shall likewise report arrests and/or convictions that occur subsequent to initially submitting the form. Failure to accurately report such arrests and convictions may subject the individual to denial of contract, termination if already contracted, and/or criminal prosecution.

E. **Prevailing Wage**

Bidder is required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determinate made by the Secretary of Labor. In addition, Vendor shall pay wages not less than once a week.

Current prevailing wage determinations issued by the Department of Labor are available at www.wdol.gov. Vendor agrees that, for any purchase to which this requirement applies, the award of the purchase to the Vendor is conditioned upon Bidder’s acceptance of the wage determination.

F. **OSHA Requirements**

In submitting a bid, Bidder agrees to abide by all applicable State and Federal regulations and guarantees that all items subject to OSHA requirements will not violate those requirements.

G. **Insurance Requirements**

The Bidder must include in their bid an affirmation that the required insurance and bond will be provided to the MCIU prior to the commencement of services.
• It is understood that the status of the Bidder and the work to be performed by the Bidder is that of an Independent Contractor.

• The Bidder must provide Commercial General Liability Insurance in addition to the automobile coverage and the excess/umbrella requirements.

• The Bidder must provide evidence of automobile & truck insurance in an amount not less than $1,000,000 combined single limit of liability due to any one accident.

• The Bidder shall also provide evidence of an Umbrella Liability policy for a minimum of $1,000,000 in effect for the life of the contract.

• The MCIU will not indemnify any Contractor for its own negligence or for injuries or damages for which the MCIU has sovereign immunity.

H. Bid Bond
Bids must be accompanied by either a certified check, certified bank treasurer’s check, bank cashier’s check, or bid bond in an amount equal to 10% of the base bid.

Additional Information

A. Performance Bond
The successful Bidder shall supply a performance bond in the amount of 100% of the expected contract amount, conditioned upon the faithful performance of the Contract and in accordance with the terms and specifications in this request for bid. The bond must be executed on a form approved by the MCIU and will be solely for the protection of the entity.

The Performance Bond must be executed by a surety named in the current list of “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies”, as published in Circular 570 (as amended) by the Audit Staff, Bureau of Governmental Financial Operations, U.S. Treasury Department and the amount of the bonds shall not exceed the underrating risk of the surety as set forth in said circular or revision thereof. The surety must be licensed and qualified to do business in the Commonwealth of Pennsylvania. The bond must be accompanied by a Power of Attorney evidencing the authority of the agent of the surety to execute the bonds as of the date of the bonds.

B. Non-Discrimination/Equal Employment Opportunity
The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated
during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin.

C. **Never Contract with the Enemy**
   The Bidder cannot contract with a person or entity that is actively opposing United States or coalition forces involved in a contingency.

D. **Conflict of Interest**
   No employee, officer, or agent may participate in the selection, award, or administration of a contract supported by a federal award if he or she has a real, or apparent conflict of interest. The officers, employees, and agents of the organization may not solicit nor accept gratuities, favors, or anything of monetary value from contractors or parties to subcontracts. The standards of conduct provide for disciplinary actions to be applied for violations of such standards by officers, employees, or agents.

E. **Non-Collusion Affidavit**
   Included is a Non-Collusion Affidavit with instructions for the proper execution of the Affidavit.

F. **Form W-9**
   Included is a Form W-9: Request for Taxpayer Identification Number and Certification with instructions for completion.

G. **Bid Vendor/Supplier Profile Form**
   Included is a Bid Vendor/Supplier Profile Form to be completed.

H. **Bid Submission Form**
   Included is a Bid Submission Form to be completed.

I. **Small Diverse Business Program**
   The MCIU Joint Purchasing Consortium encourages and supports the involvement of small diverse businesses as service providers.

   A Small Diverse Business is a Commonwealth of Pennsylvania Department of General Services verified minority-owned business, woman-owned business, service-disabled veteran-owned, disability-owned, and LGBTQ-owned business.

   A small business is a business in the United States which is independently owned, not dominant in its field of operation, employs no more than 100 full-time or full-time equivalent employees, and earns less than $38.5 million in gross annual revenues.

   If the Bidder has submitted the proper documentation to the Department of General Services to
qualify as a Small Diverse Business, the Bidder should include a copy of the certification with the bid.

While it is not required that an organization be a Small Diverse Business to provide the services outlined in this request for bid, the bids from Small Diverse Businesses will be prioritized during the review process.

J. **Contract Work Hour and Safety Standards Act**
   For all prime contracts in excess of $100,000, contractors and subcontractors must also pay laborers and mechanics, including guards and watchmen, at least one and one-half times their regular rate of pay for all hours worked over 40 in a workweek.

K. **EDGAR Certifications Addendum for Contract Funded by U.S. Federal Grant**
   When a school entity seeks to procure goods and services through a contract using funds under a federal grant or contract, specific federal laws, regulations, and requirements may apply in addition to those under state law. This includes, but is not limited to, the procurement standards of the Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards, 2 CFR 200 (sometimes referred to as the “Uniform Guidance” or new “EDGAR”). The authorized official of the Bidder must execute the EDGAR Certifications Addendum and submit along with the other bid documents.

L. **Equal Opportunity Employer**
   The MCIU is an equal opportunity employment, educational, and service organization.

M. **Governing Law**
   This bid and all services delivered as a result will be governed by the laws of the Commonwealth of Pennsylvania.

N. **Incurring Costs**
   MCIU is not liable for any costs the Bidder incurs in the preparation and submission of its bid, in participating in the bid process or in anticipation of award of a contract.

O. **Rejection of Bids**
   The MCIU reserves the right to reject any or all bids and to accept a bid or portions of a bid which will, in its opinion, will be most advantageous to the MCIU and will best serve the public interest, price and other factors considered. In addition, the Consortium reserves the right to waive any irregularities in bids and to make decisions in the best interest of the MCIU.

P. **Withdrawal of Bids**
   Prior to opening, the Bidder will be given permission to withdraw any bid after it has been received by the MCIU. With the exception of the provision for withdrawing bids due to a mistake within the
forty-eight (48) hour period following the bid opening date, no plea of mistakes shall be made available to the Bidder and no bid may be withdrawn before the expiration of the sixty (60) days from the date established for the opening of the bid. Bidders who violate this provision will be declared unsatisfactory for any future Request for Bid opportunities with the MCIU.

**Bid Schedule**

The tentative schedule for the MCIU Roof Replacement project is as follows:

- Bid Advertisement/Distribution: Friday, March 22, 2024
- Pre-Bid Walkthrough: Monday, April 1, 2024 at 2:00 P.M.
- Request for Information (RFI) Deadline: Thursday, April 4, 2024 at 4:00 P.M.
- Bid Due: Friday, April 12, 2024 at 10:00 A.M.
- Vendor Selected/Award Pending Board Approval: Friday, April 19, 2024
- Board Approval: Wednesday, April 24, 2024

**Selection Process**

**Evaluation Criteria**

- Background and demonstrated experience of the Bidder.
- How well the Bidder understands the nature of the work and the approach proposed to provide the services and techniques required to best serve the interest or the MCIU.
- The quality of the bid and work plan.
- The Bidder’s unique or innovative approaches to the problem; special skills and tools.
- References
INSTRUCTIONS FOR NON-COLLUSION AFFIDAVIT

1. This Non-Collusion Affidavit is material to any contract awarded pursuant to this bid. According to the Pennsylvania Antibid-Rigging Act, 73 P.S. §§ 1611 et seq., governmental agencies may require NonCollusion Affidavits to be submitted together with bids.

2. This Non-Collusion Affidavit must be executed by the member, officer or employee of the bidder who makes the final decision on prices and the amount quoted in the bid.

3. Bid rigging and other efforts to restrain competition, and the making of false sworn statements in connection with the submission of bids are unlawful and may be subject to criminal prosecution. The person who signs the Affidavit should examine it carefully before signing and assure himself or herself that each statement is true and accurate, making diligent inquiry, as necessary, of all other persons employed by or associated with the bidder with responsibilities for the preparation, approval or submission of the bid.

4. In the case of a bid submitted by a joint venture, each party to the venture must be identified in the bid documents, and an Affidavit must be submitted separately on behalf of each party.

5. The term "complementary bid" as used in the Affidavit has the meaning commonly associated with that term in the bidding process, and includes the knowing submission of bids higher than the bid of another firm, any intentionally high or noncompetitive bid, and any other form of bid submitted for the purpose of giving a false appearance of competition.

6. Failure to file an Affidavit in compliance with these instructions will result in disqualification of the bid.
NON-COLLUSION AFFIDAVIT

State of _________: Contract/Bid Title ____________________: County of ____________________: 

I state that I am _____________________________of ______________________________________ (Title)                   (Name of my firm)

and that I am authorized to make this affidavit on behalf of my firm, and its owners, directors, and officers. I am the person responsible in my firm for the price(s) and the amount of this bid.

I state that:

1. The price(s) and amount of this bid have been arrived at independently and without consultation, communication or agreement with any other contractor, bidder or potential bidder.

2. Neither the price(s) nor the amount of this bid, and neither the approximate price(s) nor approximate amount of this bid, have been disclosed to any other firm or person who is a bidder or potential bidder, and they will not be disclosed before bid opening.

3. No attempt has been made or will be made to induce any firm or person to refrain from bidding on this contract, or to submit a bid higher than this bid, or to submit any intentionally high or noncompetitive bid or other form of complementary bid.

4. The bid of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive bid.

5. _______________________, its affiliates, subsidiaries, officers, directors and employees are not currently under investigation by any governmental agency and have not in the last three years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract, except as follows:

I state that _________________________ understands and acknowledges that the above representations are material and important, and will be relied on by the Montgomery County Joint Purchasing Consortium in awarding the contract(s) for which this bid is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from Montgomery County Intermediate Unit of the true facts relating to the submission of bids for this contract.

Name ____________________________  Company Position __________________________

SWORN TO AND SUBSCRIBED BEFORE ME THIS _____ DAY OF _________________, 20_____

__________________________________________       _________________________________________
Notary Public                                                   My Commission Expires:
Request for Taxpayer Identification Number and Certification

Go to www.irs.gov/FormW9 for instructions and the latest information.

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here: Signature of U.S. person

Date

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.
EDGAR CERTIFICATIONS
ADDENDUM FOR CONTRACT FUNDED BY U.S. FEDERAL GRANT

The following certifications and provisions are required and apply when Montgomery County Intermediate Unit #23 ("MCIU") or its members expends federal funds for any contract resulting from this procurement process. **Accordingly, the parties agree that the following terms and conditions apply to the Contract between the MCIU and vendor ("Vendor") in all situations where Vendor has been paid or will be paid with federal funds:**

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**REQUIRED CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY CONTRACTS UNDER FEDERAL AWARDS APPENDIX II TO 2 CFR PART 200**

(A) **Applicant Violation or Breach of Contract Terms**

Applicant shall promptly correct any errors, omissions or defects in any services at no cost to the MCIU. The MCIU reserves the right to reject any services reasonably determined by the MCIU as containing errors, omissions or defects or otherwise failing to conform to the requirements of the contract documents. If Applicant fails to correct the services within a reasonable time, the MCIU, in addition to any other rights or remedies available at law or in equity or pursuant to the contract documents, may correct them and offset the cost of correction against any remaining balance owed to Applicant and Applicant shall reimburse the MCIU for any difference that may remain. If the MCIU prefers to accept services which are not in accordance with the requirements of the contract documents, the MCIU may do so instead of requiring its removal and correction, in which case the contract sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

Duties and obligations imposed by the contract documents and the rights and remedies available thereunder shall be in addition to and not in limitation of duties, obligations, rights and remedies otherwise imposed or available by law or in equity. No action or failure to act by the MCIU or Applicant shall constitute a waiver of a right or duty afforded them under the contract documents, nor shall such action or failure to act constitute approval or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

Does Vendor agree? YES ________ Initials of Authorized Representative of Vendor

(B) **Contracts for more than the simplified acquisition threshold currently set at $250,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.**

Pursuant to Federal Rule, when the MCIU expends federal funds, they reserve all rights and privileges under the applicable laws and regulations with respect to this procurement in the event of breach of contract by either party.

Does Vendor agree? YES ________ Initials of Authorized Representative of Vendor

(C) **Termination for Cause and for Convenience**

By the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of $10,000).

Pursuant to Federal Rule, when the MCIU expends federal funds, they reserve the right to immediately terminate any agreement in excess of $10,000 resulting from this procurement process in the event of a breach or default of the agreement by Vendor in the event Vendor fails to: (1) meet schedules,
deadlines, and/or delivery dates within the time specified in the procurement solicitation, contract, and/or a purchase order; (2) make any payments owed; or (3) otherwise perform in accordance with the contract and/or the procurement solicitation. The MCIU also reserves the right to terminate the contract immediately, with written notice to the vendor, for convenience, if they believe, in its sole discretion, that it is in the best interest to do so. If the contract is terminated in accordance with this Paragraph, the MCIU shall only be required to pay Applicant for services satisfactorily performed prior to the termination. If the MCIU has paid the Applicant for services not yet provided as of the date of termination, the Applicant shall immediately refund such payment(s). Any award under this procurement process is not exclusive and MCIU reserves the right to purchase goods and services from other vendors when it is in their best interest.

Does Vendor agree? YES ________ Initials of Authorized Representative of Vendor

(D) Clean Air Act (42 U.S.C. 7401-7671q,) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387)

As amended - Contracts and subgrants of amounts in excess of $150,000 must contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251- 1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

Pursuant to Federal Rule, when federal funds are expended by the MCIU, Vendor certifies that during the term of an award for all contracts by MCIU resulting from this procurement process, Vendor agrees to comply with all applicable requirements as referenced in Federal Rule.

Does Vendor agree? YES ________ Initials of Authorized Representative of Vendor

(E) Debarment and Suspension (Executive Orders 12549 and 12689)

A contract award (see 2 CFR 180.220) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), “Debarment and Suspension.” SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Pursuant to Federal Rule, when federal funds are expended by the MCIU, Vendor certifies that during the term of an award for all contracts by MCIU resulting from this procurement process, Vendor certifies that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency. The Applicant further agrees to immediately notify the MCIU during the term of the contract if the Applicant is later listed on the government-wide exclusions in SAM, or is debarred, suspended, or otherwise excluded by agencies or declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Does Vendor agree? YES ________ Initials of Authorized Representative of Vendor


Contractors that apply or bid for an award exceeding $100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with
obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

Pursuant to Federal Rule, when federal funds are expended by the MCIU, Vendor certifies that during the term and after the awarded term of an award for all contracts resulting from this procurement process, the vendor certifies that it is in compliance with all applicable provisions of the Byrd Anti-Lobbying Amendment (31 U.S.C. 1352). The undersigned further certifies that:

1. No Federal appropriated funds have been paid or will be paid for on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of congress, or an employee of a Member of Congress in connection with the awarding of a Federal contract, the making of a Federal grant, the making of a Federal loan, the entering into a cooperative agreement, and the extension, continuation, renewal, amendment, or modification of a Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of congress, or an employee of a Member of Congress in connection with this Federal grant or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, “Disclosure Form to Report Lobbying”, in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all covered sub-awards exceeding $100,000 in Federal funds at all appropriate tiers and that all subrecipients shall certify and disclose accordingly.

Does Vendor agree? YES ________ Initials of Authorized Representative of Vendor

(G) Contracting with Small and Minority Businesses, Women’s Business Enterprises, and Labor Surplus Area Firms

The Applicant shall take all necessary affirmative steps to assure that minority businesses, women’s business enterprises, and labor surplus area firms are used when possible. Affirmative steps include:

1. Placing qualified small and minority businesses and women’s business enterprises on solicitation lists;
2. Assuring that small and minority businesses, and women’s business enterprises are solicited whenever they are potential sources;
3. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women’s business enterprises;
4. Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women’s business enterprises;
5. Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce; and
6. Requiring any subcontractor, if subcontracts are to be let, to take the affirmative steps.

Does vendor agree? YES ________ Initials of Authorized Representative of vendor

(H) Domestic Preferences

The Applicant should, as appropriate and to the extent consistent with law, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States, when possible in connection with any services provided to the MCIU.

Does vendor agree? YES ________ Initials of Authorized Representative of vendor
(I) **General Compliance and Cooperation with MCIU**

The Applicant agrees it shall make a good faith effort to work with the MCIU to provide such information and to satisfy such requirements as may apply to the MCIU’s purchase of services including, but not limited to, applicable recordkeeping and record retention requirements and contract cost and price analyses required under the Uniform Guidance.

Does vendor agree? YES ________ Initials of Authorized Representative of vendor

(J) **Equal Opportunity Clause**

Except as otherwise provided under 41 CFR Part 60, all MCIU purchases or contracts that meet the definition of “federally assisted construction contract” in 41 CFR Part 60-1.3 shall be deemed to include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, “Equal Employment Opportunity” (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and implementing regulations at 41 CFR Part 60, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.” The equal opportunity clause provided under 41 CFR 60-1.4(b) is hereby incorporated by reference. Vendor agrees that such provision applies to any MCIU purchase or contract that meets the definition of “federally assisted construction contract” in 41 CFR Part 60-1.3 and Vendor agrees that it shall comply with such provision.

Does vendor agree? YES ________ Initials of Authorized Representative of vendor

(K) **Davis-Beacon Act**

When required by Federal program legislation, Vendor agrees that, for all MCIU prime construction contracts/purchases in excess of $2,000, Vendor shall comply with the Davis-Bacon Act (40 USC 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, “Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction”). In accordance with the statute, Vendor is required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determinate made by the Secretary of Labor. In addition, Vendor shall pay wages not less than once a week.

Current prevailing wage determinations issued by the Department of Labor are available at www.wdol.gov. Vendor agrees that, for any purchase to which this requirement applies, the award of the purchase to the Vendor is conditioned upon Vendor’s acceptance of the wage determination.

Vendor further agrees that it shall also comply with the Copeland “Anti-Kickback” Act (40 USC 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled.

Does Vendor agree? YES ________ Initials of Authorized Representative of Vendor

(L) **Contract Work Hour and Safety Standards Act**

Where applicable, for all MCIU contracts or purchases in excess of $100,000 that involve the employment of mechanics or laborers, Vendor agrees to comply with 40 USC 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 USC 3702 of the Act, Vendor is required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours.
worked in excess of 40 hours in the work week. The requirements of 40 USC 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

Does Vendor agree? YES ________ Initials of Authorized Representative of Vendor

(M) Right to Inventions Made Under a Contract or Agreement

If the MCIU’s Federal award meets the definition of “funding agreement” under 37 CFR 401.2(a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance or experimental, developmental, or research work under that “funding agreement,” the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.

Does Vendor agree? YES ________ Initials of Authorized Representative of Vendor

(N) Procurement of Recovered Materials

For MCIU purchases utilizing Federal funds, Vendor agrees to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act where applicable and provide such information and certifications as a MCIU member may require to confirm estimates and otherwise comply. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery, and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

Does Vendor agree? YES ________ Initials of Authorized Representative of Vendor
## Company Demographic Information

<table>
<thead>
<tr>
<th>Company Legal Name:</th>
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</thead>
<tbody>
<tr>
<td>Doing Business As Name:</td>
</tr>
<tr>
<td>Street Address:</td>
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<tr>
<td>City/State/Zip:</td>
</tr>
<tr>
<td>Website:</td>
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<tr>
<td>Federal Tax ID #:</td>
</tr>
<tr>
<td>State Tax ID #:</td>
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<tr>
<td>Dun &amp; Bradstreet (DUNS) No:</td>
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<tr>
<td>Year Business Was Established:</td>
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<table>
<thead>
<tr>
<th>Primary Contact for Bid:</th>
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<tbody>
<tr>
<td>Email Address:</td>
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<tr>
<td>Cell Phone Number:</td>
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</tbody>
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**Suspension & Debarment**

For your bid to be considered, the Bidder must certify your understanding that supplies or services purchased through this bid may come from State or Federal funds.

The prospective Bidder certifies by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in this bid by any State or Federal department of agency.

___________________________________________________
Name & Title of Authorized Representative

___________________________________________________
Signature Date
As the authorized representative of ________________________________, I understand and accept the requirements outlined in the Invitation to Bid document for MCIU Bid #_______, Roof Replacement.

I understand that the MCIU acts as a whole to reserve the right to reject any or all bids not deemed satisfactory or to select single items from any bid.

Non-Discrimination Assurance: The Bidder certifies that it will not discriminate in the course of activities outlined in the bid proposal. Discrimination will not be made on the basis of race, color, sex, age, religious creed, disability, ancestry or national origin.

Indemnification: The Bidder agrees that if awarded an order under this bid, the Bidder will indemnify and save harmless the MCIU from all suits and actions of every nature brought against them or any of them growing out of any order or orders, written or verbal, entered into between the MCIU and the Bidder.

___________________________________________________
Name & Title of Authorized Representative

___________________________________________________
Signature Date

Attach Corporate Seal
Date: ______________________________________

Company: ________________________________ Name: ________________________________

Telephone Number: ______________________ Email Address: ____________________________

Contract(s) bidding on: ________________________________________________________________

Drawing Referenced: __________________________________________________________________

Spec Section Referenced: __________________________________________________________________

Other References: _______________________________________________________________________


QUESTION(S): _______________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

RESPONSE(S): _______________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

Answered by: _____________________________ Response Date: _____________________________
Roof Replacement

MCIU - 375 Morris Road
Lansdale, PA 19446

Prepared for:

MCIU
MONTGOMERY COUNTY
INTERMEDIATE UNIT 2.3

Prepared by:

Performance
ROOFING ASSOCIATES

P: 610.594.6700  F: 610.594.6707
93 West Devon Drive, Suite 200, Exton, PA 19341
www.prarfg.com
Furnish all necessary labor, material, equipment and supervision for the above-mentioned project.

**CONTRACT CONDITIONS:**

- Contractor will adhere strictly to all manufacturer’s recommendation and specification to ensure the issuance and compliance of all warranties.
- Contractor will comply with all local, state, and federal regulations and codes. The contractor is responsible for the purchase and payment of any permits. All contractors must have a work card if applicable.
- All bids must be inclusive of all cost including taxes and freight. Only the attached “Contractor Bid Form” will be accepted. Additional material may be submitted.
- Contractor must meet all insurance requirements. Contractor must sign full waiver of lien document prior to payment.
- **Contractor must field verify all existing conditions including but not limited to penetrations, measurements, and existing roof composition.**
- Subcontractors will be permitted only with the written permission of the owner’s agent. A list of all subcontractors will be required. Any subcontractor must be on a work agreement and meet all of our insurance requirements.
- Contractor must have a complete set of specifications and drawings on-site at all times. Contractor must provide a competent foreman who is fully able to understand and interpret the requirements of the project, and to communicate effectively with the owner’s agent.
- All work is to be done in the spirit of the specifications and drawings attached. The job site is to be secured during construction. All OSHA safety rules are to be enforced.

**NOTE:** Contractor to barricade off work areas in order to ensure the safety of residents, Employees and guests.

**GENERAL CONSTRUCTION NOTES**

- Job site shall be kept clean and orderly on a daily basis.
- Contractor will comply with OSHA safety precaution requirements.
- Any disconnecting, raising and reconnecting of HVAC units is to be included.
- Contractor is responsible for locating any electrical conduit or gas pipe located below the roof surface, and damage to electrical or gas lines caused by the contractor due to negligent failure to try and locate such lines will be paid for by the contractor.
- Contractor is responsible for any disconnection or reconnection of electric or gas supply.
**PROPERTY:** MCIU – 375 MORRIS ROAD  
LANSDALE, PA 19446

**PROJECT:** ROOF REPLACEMENT

<table>
<thead>
<tr>
<th>BASE BID #1</th>
<th>TOTAL BID: FULLY ADHERED EPDM, PROTECTOR, 2” ISO, 20Y GUARANTEE</th>
<th>$______________</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALTERNATE #1</td>
<td>ADD TO BASE BID #1: FULLY ADHERED EPDM, PROTECTOR, 2” ISO, 30Y GUARANTEE</td>
<td>ADD $______________</td>
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</tbody>
</table>

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<tr>
<th>BASE BID #2</th>
<th>TOTAL BID: FULLY ADHERED TPO, PROTECTOR, 2” ISO, 20Y GUARANTEE</th>
<th>$______________</th>
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</thead>
<tbody>
<tr>
<td>ALTERNATE #2</td>
<td>ADD TO BASE BID #2: FULLY ADHERED TPO, PROTECTOR, 2” ISO, 30Y GUARANTEE</td>
<td>ADD $______________</td>
</tr>
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</table>

| ALTERNATE #3 | MISC SHINGLE WORK: AS OUTLINED IN SHINGLES SCOPE OF WORK AND SHINGLE IDENTIFICATION ROOF PLAN | ADD $______________ |

UNIT COST FOR WET/DAMAGED INSULATION BEYOND THE 700 SQFT INCLUDED IN BID  
$______________

UNIT COST FOR REMOVAL AND REPLACEMENT OF EXISTING DETERIORATED WOOD BLOCKING  
$______________

**BIDDER INFORMATION**

Company Name:  
_____________________________________________________________________________________________

Address:  
_____________________________________________________________________________

Phone #:  
Fax #:  
_____________________________________________________________________________
Authorized By: (Print Name)

Signature: __________________________________________

Title: __________________________________________

Payment Terms: __________________________________________

Date Bid Submitted: __________________________________________

Bid Valid For: __________________________________________

Contractor agrees by signature above to perform all work in accordance with the specification documents herein. And that all work will be completed in a timely manner and within the spirit and intention of the project.

Please attach a copy of the following with your bid:
1. Reference List
2. Current Evidence of Property Insurance Binder
3. Copy of Worker’s Comp. Certificate

The bidder agrees to start work within ______________(___________) days after contract award and to complete all work within ______________(___________) consecutive work days (week-ends and holidays not included) after award of contract.
SECTION 075323
ETHYLENE PROPYLENE DIENE MONOMER (EPDM) MEMBRANE ROOFING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Adhered EPDM membrane roofing system.
B. Cover board.
C. Roof insulation.

1.2 WORK INCLUDED

A. Provide price included in base bid to have a 3rd party conduct a moisture scan for wet insulation.
B. Include in base bid the removal and infill 700 sqft of wet/damaged insulation. All remaining wet/damaged removal and infill will be a unit cost.
C. Remove only existing gravel from roof system. Wet Vac and Spud existing surface to remove granules. Remove all flashings from parapet and roof top units.
D. Contractor to install new retrofit drains at all existing drain locations.
E. Install one (1) layer of 2” polyisocyanurate insulation adhered to existing BUR roof system. Bonded pull tests are required to confirm fastening patterns/rates.
F. Install new crickets between drains and new saddles behind unit curbs as shown on roof plan.
G. Install new ½” ProtectoR HD coverboard adhered over new insulation.
H. Adhere new JM 60-mil black EPDM (Alternate for 90-mil on 30yr option) over insulation.
I. Install new 1/2” plywood on vertical of parapet to provide a clean surface to adhere new flashings.
J. Install new metal coping in .050 Kynar aluminum around perimeter of roof to be included in manufacturer warranty. With coping, install a new .050 Kynar aluminum “skirt” flashing around exterior perimeter of metal coping to run down and over top of shingle roof sections and cover exposed nails. Color to be selected by owner from manufacturer standard colors.
K. Provide 20-year manufacturer warranty.
L. Alternate for 30-year manufacturer warranty.
M. Contractor shall include in base bid the installation of walkway pads at all roof access areas and around all rooftop unit curbs. Walkway pads to be installed around entire unit curb.
N. Contractor is responsible for all measurements including roof area, metal fascia, and core information.
O. Contractor shall provide a unit cost for removing deteriorated wood blocking and install new blocking in kind. New wood blocking shall be attached 16” o.c. Staggered with appropriate fasteners for uplift protection prior to installing new metal coping.

P. Roofing contractor shall adequately staff roofing project once project has begun. Owner fully expects re-roofing to commence every day, weather permitting.

Q. Contractor is responsible for providing bathroom facilities for the roofers on site. At no time is the roofer to enter the building unless written authorization by owner or property manager is provided.

R. Contractor is responsible for proper watertight temporary tie-ins from new system to existing roofing system during the duration of the construction process.

S. Contractor is responsible for any water leak damage that may occur to the interior of building as a result of damage to existing roof, or temporary tie-in areas during the construction.

T. Contractor to follow all the roofing system manufacturer requirements and details for warranty.

U. Contractor shall include all related items of work as noted herein or indicated on the drawings or otherwise required to complete the specified elements of work and provide necessary warranties for this work.

1.3 REFERENCES

A. Roofing Terminology: Refer to the following publications for definitions of roofing work related terms used in this Section:

3. Roof Consultants Institute “Glossary of Roofing Terms.”
4. Single Ply Roofing Industry (SPRI)
5. International Building Code (IBC)
6. American Society of Civil Engineers (ASCE-7) Minimum Design Loads for Buildings & Other Structures

1.4 DESIGN CRITERIA

A. General: Installed roofing membrane systems shall remain watertight; and resist specified wind uplift pressures, thermally induced movement, and exposure to weather without failure.

B. Material Compatibility: Roofing materials shall be compatible with one another under conditions of service and application required, as demonstrated by roofing system manufacturer based on testing and field experience.

C. Installer shall comply with current code requirements based on authority having jurisdiction.

D. Wind Uplift Performance: Roofing system shall be identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist wind uplift pressure calculated in accordance with ASCE 7-16.

1. Field-Prime of-Roof Uplift Pressure: 17.70 lbf/sq. ft.
2. Field-of-Roof Uplift Pressure: 30.82 lbf/sq. ft.
3. Perimeter Uplift Pressure: 40.65 lbf/sq. ft.

Johns Manville is a manufacturer of commercial roofing products and offers this general conceptual information to you as a courtesy. This complimentary assistance is not to be used or relied upon by anyone as a substitute for professional engineering design or documentation required by building code, contract or applicable law. By accepting these comments, you agree they do not constitute any representations, endorsements of, or an assumption by Johns Manville of any liability for either the adequacy of the design of this building or of any material not supplied by Johns Manville. These comments are for Johns Manville Guarantee purposes only. Additional requirements may be necessary as determined by contract documents, building code and regulations, or governing entity.

E. Fire-Test-Response Characteristics: Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL 790 or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings from the applicable testing and inspecting agency.

1.5 SUBMITTALS

A. Product Data: Manufacturer's data sheets for each product to be provided.

B. Detail Drawings: Provide roofing system plans, elevations, sections, details, and details of attachment to other Work, including:
   1. Base flashings and membrane terminations.
   2. Tapered insulation, including slopes.
   3. Crickets, saddles, and tapered edge strips, including slopes.
   4. Insulation fastening patterns.

C. Verification Samples: Provide for each product specified.

D. Installer Certificates: confirmation that installer is approved, authorized, or licensed by manufacture to install roofing system.

E. Maintenance Data: Refer to Johns Manville's latest published documents on www.JM.com.

F. Guarantees: Provide manufacturer's current guarantee specimen.

G. Roofing sub-contractor shall provide a copy of the final System Assembly Letter issued by Johns Manville Roofing Systems indicating that the products and system to be installed shall be eligible to receive the specified manufacturer's guarantee when installed by a certified JM contractor in accordance with our application requirements, inspected and approved by a JM Technical Representative.

H. Prior to roofing system installation, roofing sub-contractor shall provide a copy of the Guarantee Application Confirmation document issued by Johns Manville Roofing Systems indicating that the project has been reviewed for eligibility to receive the specified guarantee and registered.

1.6 QUALITY ASSURANCE
A. Installer Qualifications: Qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product who is eligible to receive the specified manufacturer's guarantee.

B. Manufacturer Qualifications: Qualified domestic U.S. owned and based manufacturer that has UL listing or accredited testing agency listing for roofing system identical to that used for this Project.

C. Testing Agency Qualifications: Independent testing agency with the experience and capability to conduct the testing indicated, as documented in accordance with ASTM E329.

D. Test Reports:
1. Roof drain and leader test or submit plumber's verification, if required
2. Core cut, if requested.
3. Roof deck fastener pullout test, if required
4. Bonded pull test, if required.

E. Moisture Survey:
1. Submit prior to installation, results of a non-destructive moisture test of roof system completed by approved third party. Utilize one of the approved methods:
   a. Infrared Thermography
   b. Nuclear Backscatter

F. Source Limitations: Obtain all components from the single source roofing system manufacturer guaranteeing the roofing system. All products used in the system shall be labeled by the single source roofing system manufacturer issuing the guarantee.

G. Fire-Test-Response Characteristics: Roofing materials shall comply with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings from the applicable testing and inspecting agency.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storage.

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.

C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.8 PROJECT CONDITIONS
A. Weather Limitations: Proceed with installation only when current and forecasted weather conditions permit roofing system to be installed in accordance with manufacturer’s written instructions and guarantee requirements.

1.9 GUARANTEES

A. Provide manufacturer’s system guarantee equal to Johns Manville’s Peak Advantage No Dollar Limit Roofing System Guarantee.

1. Single-source special guarantee includes roofing membrane, base flashings, roofing membrane accessories, roof insulation, fasteners, adhesives, walkway products, manufacturer’s edge metal products, and other approved single-source components of roofing system marketed by the manufacturer.
2. Guarantee Period: 20 years from date of Substantial Completion.
3. Alternate: 30yr Guarantee from date of Substantial Completion.

B. Installer’s Guarantee: Submit roofing Installer’s guarantee, including all components of roofing system for the following guarantee period:

1. Guarantee Period: Two years from date of Substantial Completion.

C. Existing Guarantees: Guarantees on existing building elements should not be affected by scope of work.

1. Installer is responsible for coordinating with building owner’s representative to verify compliance.

PART 2 - PRODUCTS

2.1 ETHYLENE PROPYLENE DIENE MONOMER ROOFING MEMBRANE - EPDM

A. Non-reinforced uniform, flexible sheet made from Ethylene Propylene Diene Monomer, ASTM D 4637, Type I. Basis of design: JM EPDM NR or approved equal.

1. Base Bid Thickness (minimum): 60 mils (1.5 mm)
2. Alternate Bid Thickness (minimum): 90 mils (2.2 mm)
3. Exposed Face Color: Black

2.2 AUXILIARY ROOFING MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.

1. Liquid-type auxiliary materials shall meet VOC limits of authorities having jurisdiction.

B. Sheet Flashing: Manufacturer’s internally reinforced or scrim reinforced. Basis of design: JM EPDM Peel & Stick Flashing

C. Primer Material: Manufacturer’s standard synthetic-rubber polymer primer. Basis of design: JM EPDM Tape Primer Plus (Low VOC)
D. Liquid Applied Flashing: Manufacturer’s single ply liquid and fabric reinforced flashing system created with a fleece polyester scrim and a two-component polyurethane-based liquid applied flashing material, consisting of a liquid resin and a curing agent. Basis of design: JM SP Liquid Flashing Resin, JM SP Liquid Scrim


F. Seaming Material: Manufacturer’s standard 3-inch (76.2 mm) wide minimum, butyl splice tape with release film. Basis of design: JM EPDM Seam Tape Plus

G. Sealing Strip: Manufacturer’s standard minimum per manufacturer written instructions, 45 mil (1.14 mm) thick minimum cured EPDM with factory-laminated, self-adhering seam tape. Basis of design: JM EPDM Peel & Stick Sealing Strip

H. Bonding Adhesive: Manufacturer’s standard solvent-based bonding adhesive for membrane. Basis of design: JM LVOC Membrane Adhesive
   1. Serviceable Installation Ambient Air Temperature: 25°F and rising.

I. Flashing Adhesive: Manufacturer’s standard solvent-based bonding adhesive for base flashings. Basis of design: JM LVOC Membrane Adhesive
   1. Serviceable Installation Ambient Air Temperature: 25°F and rising.

J. Slip Sheet: Manufacturer’s recommended slip sheet, of type required for application.

K. Metal Termination Bars: Manufacturer’s standard predrilled stainless-steel or aluminum bars, with anchors. Basis of design: JM Termination Systems

L. Membrane Battens: Manufacturer’s standard polymer or aluminum-zinc-alloy-coated steel sheet, pre-punched. Basis of design: JM Membrane Battens

M. Fasteners: Factory-coated steel fasteners and metal plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer. Basis of design: JM High Load Fasteners (#15)

N. Miscellaneous Accessories: Provide all accessories to meet the roofing manufacturer’s guarantee requirements.

2.3 WALKWAYS

A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads sourced from membrane roofing system manufacturer. Basis of design: JM EPDM Peel & Stick Walkpads

2.4 COVER BOARD

A. High-Density Polyisocyanurate: ASTM C 1289, Type II, Class 4, Grade 1, High-density Polyisocyanurate technology bonded in-line to inorganic coated glass facers with greater than 80 lbs. of compressive strength. Basis of design: ProtectoR HD
   1. Thickness: 1/2 inch (13 mm)
2. R-value: 2.5

2.5 ROOF INSULATION

A. General: Preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and thicknesses indicated.

B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2 (20 psi) Basis of design: JM ENRGY 3®

1. Provide insulation package in one layer of 2”.
2. Minimum Long-Term Thermal Resistance (LTTR): 5.7 per inch.
   A. Determined in accordance with CAN/ULC S770 at 75ºF (24ºC)

2.6 TAPERED INSULATION

A. Tapered Insulation: ASTM C 1289, Type II, Class 1, Grade 2 (20 psi), provide factory-tapered insulation boards with slopes as indicated on drawing. Basis of design: JM Tapered ENRGY 3®

2.7 INSULATION ACCESSORIES

A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatible with membrane roofing.

B. Provide saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

C. Urethane Adhesive: Manufacturer's two component polyurethane adhesive formulated to adhere insulation to substrate. Basis of design: JM Two-Part Urethane Insulation Adhesive (UIA)

D. Wood Nailer Strips: Comply with code and manufacturer requirements.

2.8 EDGE METAL COMPONENTS

A. Coping System: Manufacturer's factory fabricated coping consisting of a base piece and a snap-on cap. Provide product manufactured and marketed by single-source membrane supplier that is included in the No Dollar Limit guarantee. Basis of design: Presto-Lock Coping

PART 3 - EXECUTION

3.1 EXAMINATION

A. General:

1. Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.
2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
B. Steel Decks:
   1. Verify that surface plane flatness and fastening of steel roof deck complies with code and manufacturer requirements.
   2. Verify that decking is visibly dry and free of moisture.
   3. Verify that the decking is smooth and free of large cracks, holes or sharp changes in elevation of the surface.
   4. When applicable perform pull test with the specific fastener being used on the project to confirm the fastener resistance meets the requirements for that particular system.

C. Ensure general rigidity and proper slope for drainage.

D. Verify that deck is securely fastened with no projecting fasteners and with no adjacent units more than 1/16 inch (1.6 mm) out of plane relative to adjoining deck.

E. Unacceptable panels should be brought to the attention of the General Contractor and Project Owner's Representative and shall be corrected prior to installation of roofing system.

3.2 RE-COVER PREPARATION

A. Prepare existing roof according to roofing system manufacturer's written instructions, applicable recommendations of the roofing manufacturer, and requirements in this Section.

B. Disable existing roof membrane per manufacturer's written instruction.

C. Remove and replace wet, deteriorated, or damaged roof insulation and decking as identified in moisture survey.

D. Tear out all base flashings, counterflashings, pitch pans, pipe flashings, vents, sumps and like components necessary for application of new membrane.

E. Remove abandoned equipment curbs, skylights, smoke hatches, and penetrations.
   1. Install decking to match existing as directed by Owner's Representative.

F. Raise (disconnect by licensed craftsmen, if necessary) all HVAC units and other equipment supported by curbs to conform with the following:
   1. Modify curbs as required to provide a minimum 8" base flashing height measured from the surface of the new membrane to the top of the flashing membrane.
   2. Secure flashing and install new metal counterflashing prior to re-installation of unit.
   3. Perimeter nailers shall be elevated to match the elevation of new roof insulation.

G. Immediately remove all debris from roof surface. The demolished roof system may not be stored on the roof surface.

3.3 INSULATION INSTALLATION

A. Coordinate installation of roof system components so insulation and cover board are not exposed to precipitation or left exposed at the end of the workday.

B. Comply with roofing system manufacturer's written instructions for installation of roof insulation.
C. Install tapered insulation under area of roofing to conform to slopes indicated.

D. Install insulation boards with long joints in a continuous straight line. Joints should be staggered between rows, abutting edges and ends per manufacturer's written instructions. Fill gaps exceeding 1/4 inch (6.35 mm) with like material.

E. Install 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (152.4 mm) in each direction.

F. Trim surface of insulation boards where necessary at roof drains so completed surface is flush and does not restrict flow of water.

G. If required, install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.

B. Adhered Insulation: Adhere each layer of insulation to substrate as follows:
   1. Install each layer in a two-part urethane adhesive according to roofing system manufacturer’s instruction.
   2. Install each layer to resist uplift pressure at corners, perimeter, and field of roof.

3.4 COVER BOARD INSTALLATION

A. Coordinate installing membrane roofing system components so cover board is not exposed to precipitation or left exposed at the end of the workday.

B. Comply with membrane roofing system manufacturer’s written instructions for installing roof cover board.

C. Install cover board with long joints in a continuous straight line. Joints should be staggered between rows, abutting edges and ends per manufacturer’s written instructions. Fill gaps exceeding 1/4 inch (6 mm) with cover board.
   1. Cut and fit cover board within 1/4 inch (6 mm) of nailers, projections, and penetrations.

D. Trim surface of cover board where necessary at roof drains so completed surface is flush and does not restrict flow of water.
   1. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.

E. Adhered Cover Board: Adhere cover board to substrate as follows:
   1. Install in a two-part urethane adhesive according to roofing system manufacturer’s instruction.
   2. Install to resist uplift pressure at corners, perimeter, and field of roof.

3.5 ROOFING MEMBRANE INSTALLATION, GENERAL

A. Install roofing membrane in accordance with roofing system manufacturer’s written instructions, applicable recommendations of the roofing manufacturer and requirements in this Section.

B. Where roof slope exceeds 1/2 inch per 12 inches (1:24), contact the membrane manufacturer for installation instructions regarding installation direction.
C. Cooperate with testing and inspecting agencies engaged or required to perform services for installing roofing system.

D. Coordinate installing roofing system so insulation and other components of the roofing membrane system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is imminent.
   1. Provide tie-offs at end of each day’s work to cover exposed roofing membrane sheets and insulation.
   2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.
   3. Remove and discard temporary seals before beginning work on adjoining roofing.

3.6 ADHERED ROOFING MEMBRANE INSTALLATION

A. Install roofing membrane over area to receive roofing in accordance with membrane roofing system manufacturer’s written instructions.
   1. Unroll roofing membrane and allow to relax before installing.
   2. Install sheet in accordance with roofing system manufacturer’s written instructions.

B. Accurately align roofing membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

C. Bonding Adhesive: Apply solvent-based bonding adhesive to substrate and underside of roofing membrane at rate required by manufacturer. Follow all manufacturer recommendations for proper application of membrane. Do not apply bonding adhesive to splice area of roofing membrane.

D. Mechanically fasten roofing membrane securely at terminations, penetrations, and perimeter of roofing.

E. Apply roofing membrane with side laps shingled with slope of roof deck where possible.

F. Field Fabricated Seam Installation: Clean and prime both faces of splice areas, apply splice tape, and firmly roll side and end laps of overlapping roofing membranes according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of roofing membrane terminations.

G. Spread sealant or mastic bead over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.

3.7 BASE FLASHING INSTALLATION

A. Install sheet flashings and preformed flashing accessories and adhere to substrates in accordance with membrane roofing system manufacturer's written instructions.

B. Apply solvent-based bonding adhesive at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.

C. Apply single ply liquid applied flashing system per manufacturer’s written instructions.

D. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
E. Clean seam areas and overlap and firmly roll sheet flashings into the adhesive.

F. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.8 EDGE METAL INSTALLATION

A. Examine substrates and conditions under which sheet metal flashing and trim are to be installed and verify that Work may properly commence. Do not proceed with installation until unsatisfactory conditions have been corrected.

B. Provide edge details as indicated on the Drawings. Install in accordance with the membrane manufacturer's requirements and SMACNA's "Architectural Sheet Metal Manual."

C. Join individual sections in accordance with the membrane manufacturer's requirements and SMACNA's "Architectural Sheet Metal Manual."

3.9 WALKWAY INSTALLATION

A. Flexible Walkways: Install walkway products in locations indicated. Adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.10 FIELD QUALITY CONTROL

A. Owner or designated representative will provide on-site observation and inspection during installation.

B. Owner will engage a qualified testing agency to perform tests and inspections.

C. Final Roof Inspection: Arrange for roofing system manufacturer's technical representative to inspect roofing installation on completion and submit report to owner or designated representative.

D. Repair or remove and replace components of roofing system where test results or inspections indicate that they do not comply with specified requirements.

E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.11 PROTECTION AND CLEANING

A. Protect roofing system from damage and wear during remainder of construction period.

B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 075323
PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Adhered TPO membrane roofing system.
B. Cover board.
C. Roof insulation.

1.2 WORK INCLUDED

A. Provide price included in base bid to have a 3rd party conduct a moisture scan for wet insulation.
B. Include in base bid the removal and infill 700sqft of wet/damaged insulation. All remaining wet/damaged removal and infill will be a unit cost.
C. Remove only existing gravel from roof system. Wet Vac and Spud existing surface to remove granulars. Remove all flashings from parapet and roof top units.
D. Contractor to install new retrofit drains at all existing drain locations.
E. Install one (1) layer of 2" polyisocyanurate insulation adhered to existing BUR roof system. Bonded pull tests required to confirm fastening patterns/rates.
F. Install new crickets between drains and new saddles behind unit curbs as shown on roof plan.
G. Install new ½" ProtectoR HD coverboard adhered over new insulation.
H. Adhere new JM 60-mil White TPO (Alternate for 80-mil on 30yr option) over insulation.
I. Install new 1/2" plywood on vertical of parapet to provide a clean surface to adhere new flashings.
J. Install new metal coping in .050 Kynar aluminum around perimeter of roof to be included in manufacturer warranty. With coping, install a new .050 Kynar aluminum “skirt” flashing around exterior perimeter of metal coping to run down and over top of shingle roof sections and cover exposed nails. Color to be selected by owner from manufacturer standard colors.
K. Provide 20-year manufacturer warranty.
L. Alternate for 30-year manufacturer warranty.
M. Contractor shall include in base bid the installation of walkway pads at all roof access areas and around all rooftop unit curbs. Walkway pads to be installed around entire unit curb.
N. Contractor is responsible for all measurements including roof area, metal fascia, and core information.
O. Contractor shall provide a unit cost for removing deteriorated wood blocking and install new blocking in kind. New wood blocking shall be attached 16” o.c. Staggered with appropriate fasteners for uplift protection prior to installing new metal coping.

P. Roofing contractor shall adequately staff roofing project once project has begun. Owner fully expects re-roofing to commence every day, weather permitting.

Q. Contractor is responsible for providing bathroom facilities for the roofers on site. At no time is the roofer to enter the building unless written authorization by owner or property manager is provided.

R. Contractor is responsible for proper watertight temporary tie-ins from new system to existing roofing system during the duration of the construction process.

S. Contractor is responsible for any water leak damage that may occur to the interior of building as a result of damage to existing roof, or temporary tie-in areas during the construction.

T. Contractor to follow all the roofing system manufacturer requirements and details for warranty.

U. Contractor shall include all related items of work as noted herein or indicated on the drawings or otherwise required to complete the specified elements of work and provide necessary warranties for this work.

1.3 REFERENCES

A. Roofing Terminology: Refer to the following publications for definitions of roofing work related terms used in this Section:

3. Roof Consultants Institute "Glossary of Roofing Terms."
4. Single Ply Roofing Industry (SPRI)
5. International Building Code (IBC)
6. American Society of Civil Engineers (ASCE-7) Minimum Design Loads for Buildings & Other Structures

1.4 DESIGN CRITERIA

A. General: Installed roofing membrane systems shall remain watertight; and resist specified wind uplift pressures, thermally induced movement, and exposure to weather without failure.

B. Material Compatibility: Roofing materials shall be compatible with one another under conditions of service and application required, as demonstrated by roofing system manufacturer based on testing and field experience.

C. Installer shall comply with current code requirements based on authority having jurisdiction.

D. Wind Uplift Performance: Roofing system shall be identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist wind uplift pressure calculated in accordance with ASCE 7-16.

1. Field-Prime of-Roof Uplift Pressure: 17.70 lbf/sq. ft.
2. Field-of-Roof Uplift Pressure: 30.82 lbf/sq. ft.
3. Perimeter Uplift Pressure: 40.65 lbf/sq. ft.

Johns Manville is a manufacturer of commercial roofing products and offers this general conceptual information to you as a courtesy. This complimentary assistance is not to be used or relied upon by anyone as a substitute for professional engineering design or documentation required by building code, contract or applicable law. By accepting these comments, you agree they do not constitute any representations, endorsements of, or an assumption by Johns Manville of any liability for either the adequacy of the design of this building or of any material not supplied by Johns Manville. These comments are for Johns Manville Guarantee purposes only. Additional requirements may be necessary as determined by contract documents, building code and regulations, or governing entity.

E. Fire-Test-Response Characteristics: Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL 790 or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings from the applicable testing and inspecting agency.

1.5 SUBMITTALS

A. Product Data: Manufacturer's data sheets for each product to be provided.

B. Detail Drawings: Provide roofing system plans, elevations, sections, details, and details of attachment to other Work, including:
   1. Base flashings and membrane terminations.
   2. Tapered insulation, including slopes.
   3. Crickets, saddles, and tapered edge strips, including slopes.
   4. Insulation fastening patterns.

C. Verification Samples: Provide for each product specified.

D. Installer Certificates: confirmation that installer is approved, authorized, or licensed by manufacture to install roofing system.

E. Maintenance Data: Refer to Johns Manville's latest published documents on www.JM.com.

F. Guarantees: Provide manufacturer's current guarantee specimen.

G. Roofing sub-contractor shall provide a copy of the final System Assembly Letter issued by Johns Manville Roofing Systems indicating that the products and system to be installed shall be eligible to receive the specified manufacturer's guarantee when installed by a certified JM contractor in accordance with our application requirements, inspected and approved by a JM Technical Representative.

H. Prior to roofing system installation, roofing sub-contractor shall provide a copy of the Guarantee Application Confirmation document issued by Johns Manville Roofing Systems indicating that the project has been reviewed for eligibility to receive the specified guarantee and registered.

1.6 QUALITY ASSURANCE
A. Installer Qualifications: Qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer’s product who is eligible to receive the specified manufacturer’s guarantee.

B. Manufacturer Qualifications: Qualified domestic U.S. owned and based manufacturer that has UL listing or accredited testing agency listing for roofing system identical to that used for this Project.

C. Testing Agency Qualifications: Independent testing agency with the experience and capability to conduct the testing indicated, as documented in accordance with ASTM E329.

D. Test Reports:
   1. Roof drain and leader test or submit plumber’s verification, if required
   2. Core cut, if requested.
   3. Roof deck fastener pullout test, if required
   4. Bonded pull test, if required.

E. Moisture Survey:
   1. Submit prior to installation, results of a non-destructive moisture test of roof system completed by approved third party. Utilize one of the approved methods:
      a. Infrared Thermography
      b. Nuclear Backscatter

F. Source Limitations: Obtain all components from the single source roofing system manufacturer guaranteeing the roofing system. All products used in the system shall be labeled by the single source roofing system manufacturer issuing the guarantee.

G. Fire-Test-Response Characteristics: Roofing materials shall comply with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings from the applicable testing and inspecting agency.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials in original containers with seals unbroken and labeled with manufacturer’s name, product brand name and type, date of manufacture, and directions for storage.

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.

C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Comply with insulation manufacturer’s written instructions for handling, storing, and protecting during installation.

D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.8 PROJECT CONDITIONS
A. Weather Limitations: Proceed with installation only when current and forecasted weather conditions permit roofing system to be installed in accordance with manufacturer's written instructions and guarantee requirements.

1.9 GUARANTEES

A. Provide manufacturer's system guarantee equal to Johns Manville's Peak Advantage No Dollar Limit Roofing System Guarantee.

1. Single-source special guarantee includes roofing membrane, base flashings, roofing membrane accessories, roof insulation, fasteners, adhesives, walkway products, manufacturer's edge metal products, and other approved single-source components of roofing system marketed by the manufacturer.

2. Guarantee Period: 20 years from date of Substantial Completion.

3. Alternate: 30 years from date of Substantial Completion.

B. Installer's Guarantee: Submit roofing Installer's guarantee, including all components of roofing system for the following guarantee period:

1. Guarantee Period: Two years from date of Substantial Completion.

C. Existing Guarantees: Guarantees on existing building elements should not be affected by scope of work.

1. Installer is responsible for coordinating with building owner's representative to verify compliance.

PART 2 - PRODUCTS

2.1 THERMOPLASTIC POLYOLEFIN ROOFING MEMBRANE- TPO


1. Base Bid Membrane Thickness: 60 mils

2. Alternate Bid Membrane Thickness: 80 mils

3. Exposed Face Color: White

2.2 AUXILIARY ROOFING MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.

1. Liquid-type auxiliary materials shall meet VOC limits of authorities having jurisdiction.

B. Sheet Flashing: Manufacturer's internally reinforced or scrim reinforced. Basis of design: JM TPO 60 mil

C. Liquid Applied Flashing: Manufacturer's single ply liquid and fabric reinforced flashing system created with a fleece polyester scrim and a two-component polyurethane-based liquid applied flashing
material, consisting of a liquid resin and a curing agent. Basis of design: JM SP Liquid Flashing Resin, JM SP Liquid Scrim


E. Flashing Adhesive: Manufacturer's standard solvent-based bonding adhesive for base flashings. Basis of design: JM LVOC Membrane Adhesive

1. Serviceable Installation Ambient Air Temperature: 25°F and rising.

F. Metal Termination Bars: Manufacturer's standard predrilled stainless-steel or aluminum bars, with anchors. Basis of design: JM Termination Systems

G. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer. Basis of design: High Load Fasteners and Plates

H. Miscellaneous Accessories: Provide all accessories to meet the roofing manufacturer's guarantee requirements.

2.3 WALKWAYS

A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads sourced from membrane roofing system manufacturer. Basis of design: JM TPO Walkpad

2.4 COVER BOARD

A. High-Density Polyisocyanurate: ASTM C 1289, Type II, Class 4, Grade 1, High-density Polyisocyanurate technology bonded in-line to inorganic coated glass facers with greater than 80 lbs. of compressive strength. Basis of design: ProtectoR HD

1. Thickness: 1/2 inch (13 mm)
2. R-value: 2.5

2.5 ROOF INSULATION

A. General: Preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and thicknesses indicated.

B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2 (20 psi) Basis of design: JM ENRGY 3®

1. Provide insulation package in one layer of 2".
2. Minimum Long-Term Thermal Resistance (LTTR): 5.7 per inch.
   a. Determined in accordance with CAN/ULC S770 at 75°F (24°C)

2.6 TAPERED INSULATION
A. Tapered Insulation: ASTM C 1289, Type II, Class 1, Grade 2 (20 psi), provide factory-tapered insulation boards with slopes as indicated on drawing. Basis of design: JM Tapered ENRGY 3®

2.7 INSULATION ACCESSORIES

A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatible with membrane roofing.

B. Provide saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

C. Urethane Adhesive: Manufacturer's two component polyurethane adhesive formulated to adhere insulation to substrate. Basis of design: JM Two-Part Urethane Insulation Adhesive (UIA)

D. Wood Nailer Strips: Comply with requirements in Division 06 Section "Miscellaneous Rough Carpentry."

2.8 EDGE METAL COMPONENTS

A. Coping System: Manufacturer's factory fabricated coping consisting of a base piece and a snap-on cap. Provide product manufactured and marketed by single-source membrane supplier that is included in the No Dollar Limit guarantee. Basis of design: Presto-Lock Coping

PART 3 - EXECUTION

3.1 EXAMINATION

A. General:

1. Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.

2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.

B. Ensure general rigidity and proper slope for drainage.

C. Verify that deck is securely fastened with no projecting fasteners and with no adjacent units more than 1/16 inch (1.6 mm) out of plane relative to adjoining deck.

D. Unacceptable panels should be brought to the attention of the General Contractor and Project Owner’s Representative and shall be corrected prior to installation of roofing system.

3.2 RE-COVER PREPARATION

A. Prepare existing roof according to roofing system manufacturer's written instructions, applicable recommendations of the roofing manufacturer, and requirements in this Section.

B. Disable existing roof membrane per manufacturer’s written instruction.
C. Remove and replace wet, deteriorated, or damaged roof insulation and decking as identified in moisture survey.

D. Tear out all base flashings, counterflashings, pitch pans, pipe flashings, vents, sumps and like components necessary for application of new membrane.

E. Remove abandoned equipment curbs, skylights, smoke hatches, and penetrations.
   1. Install decking to match existing as directed by Owner's Representative.

F. Raise (disconnect by licensed craftsmen, if necessary) all HVAC units and other equipment supported by curbs to conform with the following:
   1. Modify curbs as required to provide a minimum 8" base flashing height measured from the surface of the new membrane to the top of the flashing membrane.
   2. Secure flashing and install new metal counterflashing prior to re-installation of unit.
   3. Perimeter nailers shall be elevated to match the elevation of new roof insulation.

G. Immediately remove all debris from roof surface. The demolished roof system may not be stored on the roof surface.

3.3 INSULATION INSTALLATION

A. Coordinate installation of roof system components so insulation and cover board are not exposed to precipitation or left exposed at the end of the workday.

B. Comply with roofing system manufacturer's written instructions for installation of roof insulation.

C. Install tapered insulation under area of roofing to conform to slopes indicated.

D. Install insulation boards with long joints in a continuous straight line. Joints should be staggered between rows, abutting edges and ends per manufacturer's written instructions. Fill gaps exceeding 1/4 inch (6.35 mm) with like material.

E. Install 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (152.4 mm) in each direction.

F. Trim surface of insulation boards where necessary at roof drains so completed surface is flush and does not restrict flow of water.

G. If required, install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.

B. Adhered Insulation: Adhere each layer of insulation to substrate as follows:
   1. Install each layer in a two-part urethane adhesive according to roofing system manufacturer's instruction.
   2. Install each layer to resist uplift pressure at corners, perimeter, and field of roof.
3.4 COVER BOARD INSTALLATION

A. Coordinate installing membrane roofing system components so cover board is not exposed to precipitation or left exposed at the end of the workday.

B. Comply with membrane roofing system manufacturer's written instructions for installing roof cover board.

C. Install cover board with long joints in a continuous straight line. Joints should be staggered between rows, abutting edges and ends per manufacturer’s written instructions. Fill gaps exceeding 1/4 inch (6 mm) with cover board.
   1. Cut and fit cover board within 1/4 inch (6 mm) of nailers, projections, and penetrations.

D. Trim surface of cover board where necessary at roof drains so completed surface is flush and does not restrict flow of water.
   1. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.

E. Adhered Cover Board: Adhere cover board to substrate as follows:
   1. Install in a two-part urethane adhesive according to roofing system manufacturer’s instruction.
   2. Install to resist uplift pressure at corners, perimeter, and field of roof.

3.5 ROOFING MEMBRANE INSTALLATION, GENERAL

A. Install roofing membrane in accordance with roofing system manufacturer's written instructions, applicable recommendations of the roofing manufacturer and requirements in this Section.

B. Where roof slope exceeds 1/2 inch per 12 inches (1:24), contact the membrane manufacturer for installation instructions regarding installation direction.

C. Cooperate with testing and inspecting agencies engaged or required to perform services for installing roofing system.

D. Coordinate installing roofing system so insulation and other components of the roofing membrane system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is imminent.
   1. Provide tie-offs at end of each day's work to cover exposed roofing membrane sheets and insulation.
   2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.
   3. Remove and discard temporary seals before beginning work on adjoining roofing.

3.6 ADHERED ROOFING MEMBRANE INSTALLATION

A. Install roofing membrane over area to receive roofing in accordance with membrane roofing system manufacturer's written instructions.
1. Unroll roofing membrane and allow to relax before installing.
2. Install sheet in accordance with roofing system manufacturer's written instructions.

B. Accurately align roofing membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

C. Solvent Based Bonding Adhesive for smooth backed membranes: Apply solvent-based bonding adhesive to substrate and underside of roofing membrane at rate required by manufacturer and allow to partially dry before installing roofing membrane. Follow all manufacturer recommendations for proper application of membrane. Do not apply bonding adhesive to splice area of roofing membrane.

D. Mechanically fasten roofing membrane securely at terminations, penetrations, and perimeter of roofing.

E. Apply roofing membrane with side laps shingled with slope of roof deck where possible.

F. Seams: Clean seam areas, overlap roofing membrane, and hot-air weld side and end laps of roofing membrane according to manufacturer's written instructions to ensure a watertight seam installation.

1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roofing membrane.
2. Verify field strength of seams a minimum of twice daily and repair seam sample areas.
   a. Remove and repair any unsatisfactory sections before proceeding with installation.

3. Repair tears, voids, and incorrectly lapped seams in roofing membrane that do not meet requirements.

G. Spread sealant or mastic bead over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.

3.7 BASE FLASHING INSTALLATION

A. Install sheet flashings and preformed flashing accessories and adhere to substrates in accordance with membrane roofing system manufacturer's written instructions.

B. Apply solvent-based bonding adhesive at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.

C. Apply single ply liquid applied flashing system per manufacturer's written instructions.

D. Flash penetrations and field-formed inside and outside corners per manufacturer's installation instructions.

E. Clean seam areas and overlap and firmly roll sheet flashings into the adhesive. Weld side and end laps to ensure a watertight seam installation.

F. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.8 EDGE METAL INSTALLATION
A. Examine substrates and conditions under which sheet metal flashing and trim are to be installed and verify that Work may properly commence. Do not proceed with installation until unsatisfactory conditions have been corrected.

B. Provide edge details as indicated on the Drawings. Install in accordance with the membrane manufacturer's requirements and SMACNA's "Architectural Sheet Metal Manual."

C. Join individual sections in accordance with the membrane manufacturer's requirements and SMACNA's "Architectural Sheet Metal Manual."

3.9 WALKWAY INSTALLATION

A. Flexible Walkways: Install walkway products in locations indicated. Adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.10 FIELD QUALITY CONTROL

A. Owner or designated representative will provide on-site observation and inspection during installation.

B. Owner will engage a qualified testing agency to perform tests and inspections.

C. Final Roof Inspection: Arrange for roofing system manufacturer's technical representative to inspect roofing installation on completion and submit report to owner or designated representative.

D. Repair or remove and replace components of roofing system where test results or inspections indicate that they do not comply with specified requirements.

E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.11 PROTECTION AND CLEANING

A. Protect roofing system from damage and wear during remainder of construction period.

B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 075323
1.1 WORK INCLUDED

A. Install new 5" half round gutters and downspouts around shingle roof that was not in original GC package. (GC Package was Red lines) See roof plan for locations (Blue).

B. Repair/replace displaces shingles at Green location on shingle roof (see identifier plan). Shingle color and type to match existing.

C. Remove shingles at rising wall. Cut EFIS 12" up wall. Install new plywood on vertical wall. Install new step flashing and shingles at rising wall location. Install new sill flashing and repair EFIS. (Yellow). Shingle color and type to match existing.
March 1, 2024

The following roof system has been reviewed and approved as a warrantable system under the Johns Manville Peak Advantage Guarantee Program. A guarantee will be issued to the contractor in accordance with all procedures and requirements of the Johns Manville Peak Advantage Guarantee Program.

PROJECT INFORMATION

<table>
<thead>
<tr>
<th>Project Number:</th>
<th>8121834 <strong>Reference number when corresponding with Johns Manville</strong></th>
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</thead>
<tbody>
<tr>
<td>Project Name:</td>
<td>MCIU - 375 Morris Road</td>
</tr>
<tr>
<td>Guarantee Term:</td>
<td>20 Year No Dollar Limit</td>
</tr>
</tbody>
</table>

| Project Location: | MCIU - 375 Morris Road 375 Morris Road Lansdale, PA 19446 |

ROOF ASSEMBLY AS PROPOSED TO JOHNS MANVILLE

**Roof Area Name:** TPO - 20yr  
**System & Spec:** TPO –

**Deck Information**

<table>
<thead>
<tr>
<th>Deck Type &amp; Thickness:</th>
<th>Concrete Deck; 3 inch</th>
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<tbody>
<tr>
<td>Deck Slope (inch / foot):</td>
<td>1/4</td>
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</table>

Materials Left in Place: Insulation with BUR and Gravel. Replace wet/damaged Insulation and remove existing gravel. – Hydrovac cleaned and bonded pull tests are required

**Insulation Layer 1**

<table>
<thead>
<tr>
<th>Insulation:</th>
<th>ENRGY 3, 2.0 inch (4x4 boards)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment:</td>
<td>Ribbon Adhered</td>
</tr>
</tbody>
</table>

Attachment Pattern:

- **Field Prime (Zone 1)**: 12 in oc
- **Field (Zone 1)**: 12 in oc
- **Perimeter (Zone 2)**: 12 in oc
- **Corner (Zone 3)**: 12 in oc

Bead Spacing using 3/4 inch bead

**Cover Board**

<table>
<thead>
<tr>
<th>Cover Board:</th>
<th>ProtectoR HD, 0.5 inch (4x4 boards)</th>
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<tbody>
<tr>
<td>Attachment:</td>
<td>Ribbon Adhered</td>
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</table>

Attachment Pattern:

- **Field Prime (Zone 1)**: 12 in oc
- **Field (Zone 1)**: 12 in oc

Bead Spacing using 3/4 inch bead
**Membrane**

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<th>Perimeter (Zone 2):</th>
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<tr>
<td>Corner (Zone 3):</td>
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</table>

<table>
<thead>
<tr>
<th>Membrane:</th>
<th>JM TPO 60</th>
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<tbody>
<tr>
<td>Attachment:</td>
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</tr>
<tr>
<td>JM LVOC Membrane Adhesive (TPO &amp; EPDM)</td>
<td></td>
</tr>
</tbody>
</table>

**Flashings**

<table>
<thead>
<tr>
<th>Flashing Materials:</th>
<th>JM TPO 60</th>
</tr>
</thead>
</table>

**Roof Area Name:** EPDM - 20yr  
**System & Spec:** EPDM –

**Deck Information**

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</table>

| Attachment Pattern: | Field Prime (Zone 1): 12 in oc  
|---------------------| Field (Zone 1): 12 in oc  
|                     | Perimeter (Zone 2): 12 in oc  
|                     | Corner (Zone 3): 12 in oc |
| Bead Spacing using 3/4 inch bead | |

**Cover Board**

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<thead>
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<th>Cover Board:</th>
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<th>Membrane:</th>
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Field Prime: 17.7 psf  
Field: 30.82 psf  
Perimeter: 40.65 psf  
Corner: 55.41 psf

**Perimeter and Corner Dimensions**

Perimeter and corner dimensions for buildings less than 60 ft. in height:
Equal to the smaller of:
- 0.1 times the building lesser plan dimension (overall length or width)
- 0.4 times the eave height
but will never measure less than 0.04 times the building lesser plan dimension and never less than 3 ft.

Perimeter and corner dimensions for buildings greater than 60 ft. in height:
Equal to 0.1 times the building lesser plan dimension (overall length or width), but never less than 3 ft.  
Corners are “L” shaped with legs twice the width of the perimeter.

Buildings with continuous parapets 36” or greater may treat corners as perimeters.

Ensure any whole or partial insulation board that falls within the calculated perimeter or corner has the increased securement applied over the entire board. This must also be true for any roof cover/base sheet width when the roll is parallel to the building edge.

**Performance/Technical Information**

- Bonded pull tests are required for securement to the existing membrane. Submit pull test report to JM Technical for review and approval. Pull test results will dictate the required fastening patterns/rates and may impact the fastening rates stated above.

**Installation Notes**

- Listed below are recommendations for installation of products only if included in the proposed roof assembly

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<thead>
<tr>
<th>Attachment Method or Product</th>
<th>Recommendation</th>
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| Materials Left In Place      | Moisture scan is required  
|                              | All wet/damaged materials material must be completely removed and replaced.  
|                              | All flashing must be removed, all drains cut out, and new sumps installed. |
| Asphalt                     | Installed in full coverage hot asphalt |
| MBR Cold Application Adhesive | Wait 28 days to allow adhesive to cure |
| Roofing Systems Urethane Adhesive (RSUA) | Install with ¾ inch bead |
| JM 2 Part Urethane Insulation Adhesive (UIA) | Install with ¾ inch bead |
| JM All Season Sprayable Adhesive | Fan Pattern shall use 50% overlap |
| JM 2 Part Urethane Insulation Adhesive (UIA) Canister | Spatter Pattern shall use 80% coverage |
| UltraFast Plates – Square Flat | May be used with all Insulation and Cover Boards  
|                              | Recommended installation with high compressive strength boards (>80 PSI)  
|                              | Use with Structural Concrete Deck Fasteners |

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<td>Install with 3-inch plates</td>
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<tr>
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<td>Install with 2-inch plates</td>
</tr>
<tr>
<td>Overburden</td>
<td>Owner responsible for removal and reinstallation of any/all overburn products should a roof leak occur and require repair.</td>
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Johns Manville Technical Services
Roofing Systems Group
10100 W Ute Ave
Littleton, CO 80127
800-922-5922 Option 3
March 1, 2024

The following roof system has been reviewed and approved as a warrantable system under the Johns Manville Peak Advantage Guarantee Program. A guarantee will be issued to the contractor in accordance with all procedures and requirements of the Johns Manville Peak Advantage Guarantee Program.

**PROJECT INFORMATION**

<table>
<thead>
<tr>
<th>Project Number:</th>
<th>8121837 <strong>Reference number when corresponding with Johns Manville</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Name:</td>
<td>MCIU - 375 Morris Road</td>
</tr>
<tr>
<td>Guarantee Term:</td>
<td>30 Year No Dollar Limit</td>
</tr>
</tbody>
</table>
| Project Location: | MCIU - 375 Morris Road  
375 Morris Road  
Lansdale, PA  19446 |

**ROOF ASSEMBLY AS PROPOSED TO JOHNS MANVILLE**

*Roof Area Name: TPO - 30yr  
System & Spec: TPO –*

**Deck Information**

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<tr>
<th>Deck Type &amp; Thickness:</th>
<th>Concrete Deck; 3 inch</th>
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Field (Zone 1): 12 in oc  
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**Cover Board**

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**Perimeter (Zone 2):** 6 in oc  
**Corner (Zone 3):** 4 in oc

### Membrane

<table>
<thead>
<tr>
<th>Membrane:</th>
<th>JM TPO 80</th>
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<tbody>
<tr>
<td>Attachment:</td>
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**Roof Area Name:** EPDM - 30yr  
**System & Spec:** EPDM –

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<th>Membrane:</th>
<th>JM EPDM 90 NR</th>
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Perimeter: 40.65 psf  
Corner: 55.41 psf

**Perimeter and Corner Dimensions**

**For buildings less than 60 ft in height**

Zone 3 (Corners)
- “L” shaped with legs 0.6 times the building height long, and 0.2 times the building height wide

Zone 2 (Perimeters)
- 0.6 times the height of the building

Zone 1 (Field)
- 0.6 times the height of building (note – this brings the inner boundary of field to 1.2 times the height of the building from all edges).

Zone 1’ (Field Prime)
- Any area remaining (note – this zone is not always present depending on building size/shape)

**For buildings greater than or equal to 60 ft in height**

Zone 3 (Corners)
- “L” shaped with legs 0.2 times the lesser plan dimension (overall longest length or width, whichever is less) long and 0.1 times the lesser plan dimension wide (overall longest length or width, whichever is less)

Zone 2 (Perimeters)
- Equal to 0.1 times the building lesser plan dimension (overall longest length or width, whichever is less), but never less than 3 ft.

Zone 1 (Field)
- Any area remaining

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                              • All flashing must be removed, all drains cut out, and new sumps installed.  
| Asphalt                     | Installed in full coverage hot asphalt  

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800-922-5922 Option 3
1. Locations, sizes and dimensions of roof features and penetrations shown are approximate. Bidders shall review and verify all project conditions, including but not limited to deck type, existing roof composition and building components prior to bid.

2. Do not scale this drawing. Bidders must field verify all roof dimensions.

3. All roof details, including but not limited to edges, curbs, penetrations and terminations are to be installed per Johns Manville’s warranty requirements.

4. Contractor shall install new walkway pads at all roof access points, including but not limited to roof hatches and roof ladders.

GENERAL NOTES:

DRAWING LEGEND:
- Roof drain location with new 4x4', 1/2"ft. slope tapered polyiso sump
- One (1) layer of new 2.0" flat polyiso over existing roof system and structurally sloped roof
- New 1/2"ft. tapered polyiso cricket

ROOF PLAN / PROPOSED INSULATION LAYOUT

SCALE: 3/32" = 1'-0" (WHEN PLOTTED 18"x24")

DRAWING LEGEND:
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SHINGLES ROOF PLAN

*REFERENCE SHINGLES SCOPE OF WORK FOR THE WORK THAT CORRESPONDS TO COLORS IDENTIFIED ON THIS PLAN PAGE.*
NOTES:
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.
2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.
3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
4. DRAIN AREA MUST BE PROPERLY TAPERED SO THAT THE DRAIN FLASHING IS NOT INSTALLED UNDER TENSION.
5. NO SEAMS OR FOLDS UNDER THE COMPRESSION RING.
NOTES:

1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.

2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.

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4. DETAILS TO BE USED IN CONJUNCTION WITH GUIDE SPECIFICATIONS CONTAINING REQUIREMENTS FOR NAILERS, INSULATION, ETC.

5. ON RE-ROOF OR RECOVER PROJECTS, VENT PIPES MUST BE CLEANED OF LARGE DEPOSITS OF ASPHALT. ALUMINUM TAPE IS WRAPPED AROUND THE PIPE AS A SEPARATION LAYER. NEW ASPHALT-COATED CAST IRON PIPES MUST BE WRAPPED WITH ALUMINUM TAPE.

6. JM EPDM TAPE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC) MUST BE APPLIED ON ALL SURFACES COMING INTO CONTACT WITH JM EPDM PEEL & STICK FLASHINGS. ROLL MEMBRANE WITH HAND ROLLER UNDER PRESSURE AT SEAM.

7. 1/8" TO 1/4" OF EPDM SEAM TAPE MUST BE EXPOSED ALONG ENTIRE LENGTH OF ALL SEAMS.

8. ALL SEALANTS / CAULKING SHALL BE PERIODICALLY INSPECTED AND MAINTAINED BY THE BUILDING OWNER THROUGHOUT THE LIFE OF THE ROOF.
NOTES:

1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.

2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.

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4. JM EPDM TAPE PRIMER OR JM SINGLE PLY MEMBRANE PRIME (LOW VOC) MUST BE APPLIED ON ALL SURFACES COMING INTO CONTACT WITH JM EPDM PEEL & STICK PRODUCTS. ROLL MEMBRANE WITH HAND ROLLER UNDER PRESSURE AT SEAM IN ACCORDANCE WITH THE JM EPDM INSTALLATION GUIDE.

5. 1/8” TO 1/4” OF JM EPDM SEAM TAPE MUST BE EXPOSED ALONG ENTIRE LENGTH OF ALL SEAMS.

6. HEIGHT OF CURB TO BE ADJUSTED WITH NAILERS. IT IS PREFERRED TO RAISE CURB ONTO NAILERS TO EXTEND FLASHING HEIGHT.

7. SEE E-FW-B DETAILS FOR JM APPROVED BASE FLASHING TIE IN TERMINATION METHODS.

8. SEE E-FC-05 & E-FC-06 DETAILS FOR JM APPROVED OUTSIDE CORNER FLASHING METHODS.
NOTE:
JM EPDM TAPE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC) MUST BE APPLIED TO ALL SURFACES COMING INTO CONTACT WITH JM EPDM PEEL & STICK FLASHINGS.

STEP 1

JM EPDM TAPE PRIMER ON ALL SURFACES COMING INTO CONTACT WITH EPDM SEAM TAPE
CUT FLAP AND SECURE WITH EPDM SEAM TAPE WITH 1/8" TO 1/4" SEAM TAPE EXPOSED
FOLD FLAP TOWARDS INTERIOR OF ROOF
JM EPDM MEMBRANE ADHERED TO WALL WITH JM APPROVED MEMBRANE ADHESIVE - (SEE DETAIL E-FW-M1)
CREASE EPDM INTO CORNER
APPROVED WALL SUBSTRATE
EPDM MEMBRANE ATTACHED WITH RTS STRIPS
EPDM RTS STRIP WITH SEAM TAPE
JM APPROVED FASTENER & PLATE 12" (304 mm) O.C. MAX. PENETRATION DEPENDANT ON DECK MATERIAL(S). SEE SPECIFICATIONS FOR FURTHER INFO.
APPROVED WALL SUBSTRATE
TERMINATE PER E-FW-I & T DETAILS
APPROVED JM ADHESIVE
CREATE "PIGS EAR" WITH INSIDE/OUTSIDE CORNER FLASHING
JM SINGLE PLY LVOC CAULK ALL AROUND FLASHING
EPDM MEMBRANE ATTACHED WITH RTS STRIPS
EPDM RTS STRIP WITH SEAM TAPE

STEP 2

JM EPDM TAPE PRIMER BEHIND SEAM TAPE
JM EPDM TAPE PRIMER BEHIND FLASHING
INSTALL JM EPDM 7" X 9" INSIDE/OUTSIDE CORNER INTO CORNER OVER EPDM MEMBRANE
APPROVED JM ADHESIVE
ROLL FLASHINGS WITH HAND ROLLER UNDER PRESSURE IN ACCORDANCE WITH JM EPDM INSTALLATION GUIDE
JM APPROVED FASTENER & PLATE 12" (304 mm) O.C. MAX. PENETRATION DEPENDANT ON DECK MATERIAL(S). SEE SPECIFICATIONS

E-FC-03
REPLACES EM-3T

MEMBRANE TYPE:
JM EPDM

MAXIMUM GUARANTEE TERM:
20 YEAR

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STEP 1

CUT EPDM MEMBRANE AT CORNER
INSTALL EPDM FIELD MEMBRANE UP WALL (ADHERED)
JM EPDM RTS STRIP FASTENED 12" O.C. MAX.

STEP 2

JM 3" EPDM SEAM TAPE
JM EPDM TAPE PRIMER ON ALL AREAS IN CONTACT WITH TAPE
JM EPDM RTS STRIP WITH TAPE

STEP 3

JM EPDM MEMBRANE ADHERED TO WALL WITH JM APPROVED MEMBRANE ADHESIVE - (SEE DETAIL E-FW-M1)
1/8" TO 1/4" TAPE EXPOSED

JM EPDM RTS STRIP WITH TAPE

STEP 4

JM SINGLE PLY LVOC CAULK AROUND EDGE OF CORNER
JM EPDM 7" X 9" PEEL & STICK INSIDE/OUTSIDE CORNER

JM SINGLE PLY LVOC CAULK 3" (76 mm) UP FROM CORNER
PRIME ENTIRE AREA WHERE CORNER IS INSTALLED WITH JM EPDM TAPE PRIMER PRIOR TO INSTALLATION

NOTE:
JM EPDM TAPE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC) MUST BE APPLIED TO ALL SURFACES COMING INTO CONTACT WITH JM EPDM PEEL & STICK FLASHINGS

TERMINATE PER E-FW-I & T DETAILS
NOTE:
JM EPDM TAPE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC) MUST BE APPLIED TO ALL SURFACES COMING INTO CONTACT WITH JM EPDM PEEL & STICK FLASHINGS

STEP 1
FIELD MEMBRANE
STOPS AT WALL
JM APPROVED FASTENER & PLATE 12" (304 mm) O.C.
MAX. - PENETRATION
DEPENDANT ON DECK MATERIAL(S). SEE SPECIFICATIONS FOR FURTHER INFORMATION
JM EPDM 3" SEAM TAPE
JM EPDM TAPE PRIMER ON ALL SURFACES COMING INTO CONTACT WITH EPDM SEAM TAPE

STEP 2
JM EPDM MEMBRANE ADHERED TO WALL WITH JM APPROVED MEMBRANE ADHESIVE - (SEE DETAIL E-FW-M1)
JM EPDM 3" SEAM TAPE WITH 1/8" TO 1/4" EXPOSED
TERMINATE PER E-FW-I & E-FW-T DETAILS
APPROVED WALL SUBSTRATE

STEP 3
JM EPDM 7" X 9" PEEL & STICK INSIDE/OUTSIDE CORNER
JM EPDM TAPE PRIMER ON ALL SURFACES COMING INTO CONTACT WITH JM EPDM PEEL & STICK PRODUCTS
JM SINGLE PLY LVOC CAULK AROUND EDGE OF CORNER
JM EPDM LAP CAULK 3" (76 mm) UP FROM CORNER
NOTES:
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR THE MOST CURRENT INFORMATION.
2. ANY CARPENTRY, METAL WORK, OR MASONRY CONSTRUCTION SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
3. JM EPDM MEMBRANE MUST BE CLEANED, THEN PRIMED ON TOP OF MEMBRANE AT SEAM TAPE WITH JM EPDM TAPE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC). ROLL MEMBRANE WITH ROLLER UNDER PRESSURE AT PEEL & STICK SEAM TAPE OVER EPDM FLASHING.
4. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.
NOTES:
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.
2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.
3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
4. DETAILS TO BE USED IN CONJUNCTION WITH GUIDE SPECIFICATIONS CONTAINING REQUIREMENTS FOR NAILERS, INSULATION, ETC.
5. ON RE-ROOF OR RECOVER PROJECTS, VENT PIPES MUST BE CLEANED OF LARGE DEPOSITS OF ASPHALT. ALUMINUM TAPE IS WRAPPED AROUND THE PIPE AS A SEPARATION LAYER. NEW ASPHALT-COOED CAST IRON PIPES MUST BE WRAPPED WITH ALUMINUM TAPE.
6. JM EPDM TAPE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC) MUST BE APPLIED ON ALL SURFACES COMING INTO CONTACT WITH JM EPDM PEEL & STICK FLASHINGS. ROLL MEMBRANE WITH HAND ROLLER UNDER PRESSURE AT SEAM.
7. ALL SEALANTS / CAULKING SHALL BE PERIODICALLY INSPECTED AND MAINTAINED BY THE BUILDING OWNER THROUGHOUT THE LIFE OF THE ROOF.

FIELD FABRICATED VENT PIPE

E-FP-02
REPLACES EP-2T

MEMBRANE TYPE: JM EPDM
MAXIMUM GUARANTEE TERM: 20 YEAR

ISSUE DATE 7-11-17
SCALE N.T.S

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NOTES:
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP TO DATE INFORMATION.
2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.
3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
4. JM EPDM MEMBRANE MUST BE CLEANED, THEN PRIMED ON TOP OF MEMBRANE AND PEEL & STICK FLASHING WITH JM EPDM TAPE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC) ROLL MEMBRANE WITH ROLLER UNDER PRESSURE AT PEEL & STICK FLASHING OVER EPDM MEMBRANE.
5. MAXIMUM 150 DEGREES FAHRENHEIT AT SURFACE OF OUTER SHEET METAL FLASHING.
6. SEE E-DV-01 FOR 20 YEAR FLASHING ISOMETRIC AND E-DV-02 FOR 30 YEAR FLASHING ISOMETRIC.
NOTES:

1. REFER TO JOHNS MANVILLE WEBSITE (www jm.com) FOR MOST UP TO DATE INFORMATION.
2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.
3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
4. JM EPDM TAPE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC) MUST BE APPLIED ON ALL SURFACES COMING INTO CONTACT WITH JM EPDM PEEL & STICK FLASHINGS. ROLL MEMBRANE WITH HAND ROLLER UNDER PRESSURE AT SEAM.
5. ALL SEALANTS / CAULKING SHALL BE PERIODICALLY INSPECTED AND MAINTAINED BY THE BUILDING OWNER THROUGHOUT THE LIFE OF THE ROOF.
6. MAINTAIN 2" MIN. CLEARANCE FROM PENETRATION TO EDGE OF SEALER POCKET.
7. PRIME INSIDE OF SEALER POCKET WITH EPDM TAPE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC).
8. THIS DETAIL IS ALSO APPROVED FOR MULTIPLE PENETRATIONS PROVIDED THE 2" CLEARANCE IS MAINTAINED.
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.

2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.

3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.

4. JM EPDM TAPE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC) MUST BE APPLIED ON ALL SURFACES COMING INTO CONTACT WITH JM EPDM PEEL & STICK PRODUCTS. ROLL MEMBRANE WITH HAND ROLLER UNDER PRESSURE AT SEAM.

5. 1/8" TO 1/4" OF EPDM SEAM TAPE MUST BE EXPOSED.

6. REINFORCED JM EPDM MEMBRANE IS REQUIRED FOR MECHANICALLY FASTENED INSTALLATIONS ONLY.

NOTES:

BASE TIE-IN (FASTENER & PLATE)
JM EPDM MEMBRANE ADHERED TO WALL WITH JM APPROVED MEMBRANE ADHESIVE (SEE DETAIL E-FW-M1)
APPROPRIATE JM FASTENER AND PLATE 12" (304 mm) O.C. MAXIMUM
JM EPDM MEMBRANE ADHESIVE (FOR ADHERED SPECIFICATIONS ONLY)
JM EPDM MEMBRANE ADHERED, BALLASTED OR MECHANICALLY FASTENED (SEE NOTE 6)
SEE DETAILS E-MS-03 & E-MS-04 FOR 25 & 30 YEAR MEMBRANE SIDE LAP & T-JOINT FASTENING METHODS
JM EPDM 3" SEAM TAPE WITH 1/8" TO 1/4" EXPOSED
JM EPDM TAPE PRIMER SEE NOTE 4

NOTES:
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.
2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.
3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
4. JM EPDM TAPE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC) MUST BE APPLIED ON ALL SURFACES COMING INTO CONTACT WITH JM EPDM PEEL & STICK PRODUCTS. ROLL MEMBRANE WITH HAND ROLLER UNDER PRESSURE AT SEAM.
5. 1/8" TO 1/4" OF EPDM SEAM TAPE PLUS MUST BE EXPOSED.
6. REINFORCED JM EPDM MEMBRANE IS REQUIRED FOR MECHANICALLY FASTENED INSTALLATIONS.

BASE TIE-IN (FASTENER & PLATE) ON WALL
NOTES:
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.
2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.
3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
4. JM TPO EDGE SEALANT IS REQUIRED ON ALL CUT OR NON-ENCAPSULATED EDGES OF REINFORCED MEMBRANE. THIS INCLUDES FACTORY CUT MEMBRANE (SEE DETAIL T-MS-01)
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP TO DATE INFORMATION.
2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.
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4. JM TPO EDGE SEALANT IS REQUIRED ON ALL CUT OR NON ENCAPSULATED EDGES OF REINFORCED MEMBRANE. THIS INCLUDES FACTORY CUT MEMBRANE (SEE DETAIL T-MS-01).
5. MAXIMUM 150 DEGREES FAHRENHEIT AT SURFACE OF OUTER SHEET METAL FLASHING.
NOTES:
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.
2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.
3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
4. HEIGHT OF CURB TO BE ADJUSTED WITH NAILERS. IT IS PREFERRED TO RAISE CURB ONTO NAILERS TO EXTEND FLASHING HEIGHT.
5. TPO EDGE SEALANT IS REQUIRED ON ALL CUT AND NON ENCAPSULATED EDGES OF REINFORCED MEMBRANE. THIS INCLUDES FACTORY CUT MEMBRANE (SEE DETAIL T-MS-01).
6. SEE T-FW-B DETAILS FOR JM APPROVED BASE FLASHING TIE IN TERMINATION METHODS.
NOTES:

1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.

2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.

3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.

4. IF GAP OR CUT IN MEMBRANE IS GREATER THAN 1" UNDER TPO UNIVERSAL CORNER, AN "L" PATCH THAT EXTENDS OUT ONTO THE MEMBRANE A MINIMUM OF 2" MUST BE INSTALLED AT OUTSIDE CORNER. ("L" PATCH SHOWN AT RIGHT WITHOUT TPO UNIVERSAL CORNER)

5. JM TPO EDGE SEALANT IS REQUIRED ON ALL CUT OR NON ENCAPSULATED EDGES OF REINFORCED MEMBRANE. THIS INCLUDES FACTORY CUT MEMBRANE. (SEE DETAIL T-MS-01).
NOTES:
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.
2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.
3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
4. HEIGHT OF CURB TO BE ADJUSTED WITH NAILERS. IT IS PREFERRED TO RAISE CURB ONTO NAILERS TO EXTEND FLASHING HEIGHT.
5. TPO EDGE SEALANT IS REQUIRED ON ALL CUT AND NON-ENCAPSULATED EDGES OF REINFORCED MEMBRANE. THIS INCLUDES FACTORY CUT MEMBRANE (SEE DETAIL T-MS-01).
6. SEE T-FW-B DETAILS FOR JM APPROVED BASE FLASHING TIE IN TERMINATION METHODS.
WALL/CURB ATTACHMENT

JM APPROVED FASTENER AND PLATE 12" (304 mm) O.C. MAX, PENETRATION DEPENDANT ON WALL/CURB SUBSTRATE. SEE SPECIFICATIONS FOR FURTHER INFORMATION

JM TPO MEMBRANE MECHANICALLY FASTENED TO WALL OR CURB

1/2" (13 mm) MIN.
1-1/4" (32 mm) TO 1-1/2" (38 mm)

6" (152 mm) MAX
8" (192 mm) MAX

DECK ATTACHMENT

JM APPROVED FASTENER AND PLATE 12" (304 mm) O.C. MAX, PENETRATION DEPENDANT ON DECK MATERIAL(S). SEE SPECIFICATIONS FOR FURTHER INFORMATION

JM TPO MEMBRANE MECHANICALLY FASTENED AT PERIMETER OF WALL OR CURB

1/2" (13 mm) MIN. (TYP.)

6" (152 mm) MAX
8" (192 mm) MAX

NOTES:
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.

2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.

3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.

4. JM TPO EDGE SEALANT IS REQUIRED ON ALL CUT OR NON-ENCAPSULATED EDGES OF REINFORCED MEMBRANE. THIS INCLUDES FACTORY CUT MEMBRANE (SEE DETAIL T-MS-01).
WALL/CURB ATTACHMENT

JM TPO MEMBRANE MECHANICALLY FASTENED TO WALL OR CURB

JM APPROVED FASTENER AND PLATE 12" (304 mm) O.C. MAX. PENETRATION DEPENDANT ON WALL/CURB SUBSTRATE. SEE SPECIFICATIONS FOR FURTHER INFORMATION

DECK ATTACHMENT

JM TPO MEMBRANE MECHANICALLY FASTENED AT PERIMETER OF WALL OR CURB

NOTES:
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.
2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.
3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
4. JM TPO EDGE SEALANT IS REQUIRED ON ALL CUT OR NON ENCAPSULATED EDGES OF REINFORCED MEMBRANE. THIS INCLUDES FACTORY CUT MEMBRANE (SEE DETAIL T-MS-01).
NOTES:
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.
2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.
3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
4. HEIGHT OF CURB TO BE ADJUSTED WITH NAILERS. IT IS PREFERRED TO RAISE CURB ONTO NAILERS TO EXTEND FLASHING HEIGHT
5. TPO EDGE SEALANT IS REQUIRED ON ALL CUT AND NON-ENCAPSULATED EDGES OF REINFORCED MEMBRANE. THIS INCLUDES FACTORY CUT MEMBRANE (SEE DETAIL T-MS-01).
6. SEE T-FW-B DETAILS FOR JM APPROVED BASE FLASHING TIE IN TERMINATION METHODS.
NOTES:
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.
2. PLEASE SEE JM TPO APPLICATION GUIDE FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.
3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
**JM TPO 2 PIECE PENETRATION POCKET**

The JM TPO penetration pocket is a two-piece molded pocket with a rigid vertical wall and pre-formed flange as shown.

**RIBS**

1.5" (38 mm) MIN. HEAT WELD (TYP.)

**NEST PIECES TOGETHER**

**PENETRATION**

1.5" (38 mm) MIN. HEAT WELD (TYP.)

**ENTIRE FLANGE (STEP 9)**

**JM TPO POURABLE SEALER OR JM ONE PART POURABLE SEALER (STEP 12)**

**INSTALLATION STEPS:**

1. **USING A WIRED BRUSH OR GRINDER, CLEAN PENETRATION DOWN TO BARE METAL FROM JUST BELOW THE MEMBRANE SURFACE TO JUST ABOVE THE TOP OF THE TPO PENETRATION PAN COLLAR TO ALLOW GOOD ADHESION BETWEEN THE PENETRATION AND THE JM TPO POURABLE SEALER.**


3. **PLACE THE JM TPO PENETRATION POCKET AROUND THE PENETRATION, NESTING THE TWO SECTIONS OF THE POCKET TOGETHER.**

4. **USING A 4" x 4" PIECE OF THICK CARDBOARD AS A HEAT SEPARATION SHEET, PLACE CARDBOARD UNDER OVERLAP SECTION OF PENETRATION PAN.**

5. **USING A HANDWELDER, WELD THE 2 PIECE "VERTICAL" COLLAR TOGETHER FROM THE 90 DEGREE VERTICAL / HORIZONTAL ANGLE CHANGE, TO THE TOP OF THE VERTICAL TPO COLLAR, BEING CAREFUL TO AVOID COLD WELDS AND VOIDS. (POSITION THE POCKET SO THE VERTICAL LAP IS AGAINST THE PENETRATION. THIS ALLOWS PROPER PRESSURE TO BE APPLIED TO THE OVERLAP WITH A 2" SILICONE ROLLER.)**

6. **USING A HANDWELDER, WELD THE 2 PIECE "HORIZONTAL" COLLAR TOGETHER FROM THE 90 DEGREE VERTICAL / HORIZONTAL ANGLE CHANGE, TO THE OUTSIDE EDGE OF THE HORIZONTAL TPO POCKET FLANGE, BEING CAREFUL TO AVOID COLD WELDS AND VOIDS. (POSITION THE POCKET SO THE HORIZONTAL LAP IS AGAINST THE CARDBOARD. THIS ALLOWS PROPER PRESSURE TO BE APPLIED TO THE OVERLAP WITH A 2" SILICONE ROLLER.)**

7. **REPEAT STEPS 5 AND 6 TO WELD THE OVERLAPS OF THE OPPOSITE SIDE OF THE PENETRATION PAN.**

8. **IF NECESSARY, TACK WELD THE PENETRATION POCKET IN PLACE AROUND THE PENETRATION, LEAVING A MINIMUM ONE INCH SPACE BETWEEN THE PENETRATION AND THE TPO PENETRATION COLLAR.**

9. **WELD THE ENTIRE HORIZONTAL FLANGE TO THE TPO FIELD MEMBRANE.**

10. **USING A SEAM PROBE, CHECK ALL LAPS FOR COLD WELDS AND VOIDS. MAKE ANY NECESSARY REPAIRS.**

11. **USING A SMALL PAINT BRUSH, APPLY A THIN COAT OF JM TPO MEMBRANE PRIMER OR JM SINGLE PLY MEMBRANE PRIMER (LOW VOC) TO THE INSIDE RIM AND AROUND THE TOP RIM OF THE POCKET. ALSO APPLY PRIMER TO THE MEMBRANE AREA ENCLOSED BY THE POCKET AND THE PENETRATION ITSELF.**

12. **FILL THE POCKET WITH JM TPO POURABLE SEALER OR JM ONE PART POURABLE SEALER. USE A DECENT AMOUNT OF SEALANT TO ENSURE PROPER CONTACT IS MADE WITH THE TOP RIM OF THE POCKET.**

13. **POURABLE SEALER IS A SEALANT TO BE MAINTAINED BY THE OWNER.**
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.

2. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.

3. STANDARD JM ROUND SPLIT PIPE BOOT SIZES ARE 1", 2", 3", 4", 5" & 6".
NOTES:

1. DETAILS TO BE USED IN CONJUNCTION WITH GUIDE SPECIFICATIONS CONTAINING REQUIREMENTS FOR NAILERS, INSULATION, ETC.

2. ON RE-ROOF OR RECOVER PROJECTS, VENT PIPES MUST BE CLEANED OF LARGE DEPOSITS OF ASPHALT. ALUMINUM TAPE IS WRAPPED AROUND THE PIPE AS A SEPARATION LAYER. NEW ASPHALT-COATED CAST IRON PIPES MUST BE WRAPPED WITH ALUMINUM TAPE.

3. JM TPO EDGE SEALANT IS REQUIRED ON ALL CUT OR NON ENCAPSULATED EDGES OF REINFORCED MEMBRANE. THIS INCLUDES FACTORY CUT MEMBRANE (SEE DETAIL T-MS-01).

FIELD FABRICATED PIPE PENETRATION

PIPE

JM SINGLE PLY LVOC CAULK
JM SINGLE PLY SEALING MASTIC
DRAW BAND REQUIRED

JM TPO DETAIL MEMBRANE ADHERED WITH
JM LVOC MEMBRANE ADHESIVE (TPO & EPDM) OR
JM MEMBRANE BONDING ADHESIVE (TPO & EPDM)

STRETCH JM TPO MEMBRANE
FORM 1" (25 mm) TURN-UP

JM TPO MEMBRANE ADHERED
OR MECHANICALLY FASTENED

JM TPO MEMBRANE ADHESIVE
(FOR ADHERED SPECIFICATIONS ONLY)

JM APPROVED FASTENER AND PLATE
MIN. OF (4) AROUND PIPE PENETRATION DEPENDANT ON DECK MATERIAL(S). SEE SPECIFICATIONS FOR FURTHER INFORMATION

JM TPO EDGE SEALANT
IF REQUIRED

JM INSULATION / COVER BOARD

APPROVED DECK

1 1/2" (38 mm) MIN. WELD (CONTINUOUS)
1 1/2" (38 mm) MIN. WELD (CONTINUOUS)

JM INSULATION / COVER BOARD

APPROVED DECK
NOTES:
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.
2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.
3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
4. JM TPO EDGE SEALANT IS A ONE-PART POLYMERIC MATERIAL USED TO SEAL CUT EDGES OF JM TPO MEMBRANES WHERE THE POLYESTER REINFORCEMENT IS EXPOSED AFTER WELDING. A 1/8" (3.18 MM) BEAD IS APPLIED FROM A PLASTIC SQUEEZE BOTTLE TO THE CUT EDGE OF THE TPO MEMBRANE.
5. JM TPO EDGE SEALANT IS REQUIRED ON ALL CUT OR NON ENCAPSULATED EDGES OF REINFORCED MEMBRANE. THIS INCLUDES FACTORY CUT MEMBRANE.
NOTES:

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2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.

3. ANY CARPENTERY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.

4. JM TPO EDGE SEALANT IS REQUIRED ON ALL CUT OR NON-ENCAPSULATED EDGES OF REINFORCED MEMBRANE. THIS INCLUDES FACTORY CUT MEMBRANE (SEE DETAIL T-MS-01).
ROLL PATCHES INTO SEAMS WITH HAND ROLLER UNDER PRESSURE AND CREESE INTO SEAMS ACCORDING TO THE JM TPO APPLICATION GUIDE

JM SINGLE PLY LVOC CAULK UNDER THE PATCH AT T-JOINT INTERSECTION RECOMMENDED

JM TPO T-JOINT PATCH (NOTE 5)

1 1/2" (38mm) MIN. WELD CONTINUOUS

JM SINGLE PLY LVOC CAULK ALL AROUND T-JOINT PATCH

ISOMETRIC VIEW T-JOINT

JM TPO MEMBRANE ADHERED OR MECHANICALLY FASTENED

JM TPO MEMBRANE ADHESIVE (FOR ADHERED SPECIFICATIONS ONLY)

JM TPO T-JOINT PATCH (NOTE 5)

1 1/2" (38 mm) MIN. WELD (CONTINUOUS)

JM SINGLE PLY LVOC CAULK

JM INSULATION / COVER BOARD

APPROVED DECK

NOTES:
1. REFER TO JOHNS MANVILLE WEBSITE (www.jm.com) FOR MOST UP-TO-DATE INFORMATION.
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3. ANY CARPENTRY OR METAL WORK SHOULD BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHOULD BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
4. JM TPO EDGE SEALANT IS REQUIRED ON ALL CUT OR NON-ENCAPSULATED EDGES OF REINFORCED MEMBRANE. THIS INCLUDES FACTORY CUT MEMBRANE (SEE DETAIL T-MS-01).
5. JM TPO T-JOINT PATCH IS REQUIRED FOR ALL 80-MIL TPO, TPO FB 135, AND TPO FB 150 MEMBRANE SYSTEMS.

DRAWING NO. T-MS-12
MEMBRANE TYPE: JM TPO

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SCALE N.T.S 07-28-22 MAXIMUM GUARANTEE TERM: 30 YEAR
NOTES:

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2. PLEASE SEE SINGLE PLY FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THIS DETAIL.

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4. DO NOT INSTALL WALKPADS OVER MEMBRANE SEAMS.