

KINGSLEY AREA SCHOOLS

**ROOF REPLACEMENT
REQUEST FOR PROPOSALS ("RFP")**

May 9, 2025

INTRODUCTION

Qualified firms are invited to submit proposals to Kingsley Area Schools ("School District") for removal and replacement of the middle school roof, located at 403 Blair Street, Kingsley, Michigan 49649, with such construction to be in accordance with all applicable laws, including but not limited to the Revised School Code and School Building Construction Act, all bidding requirements, and applicable specifications ("Project"). The District's objective in issuing this Request for Proposals ("RFP") is to obtain competitive bids from which it will select one or more contractors ("Contractor") to provide construction in accordance with contract requirements and applicable laws, including Revised School Code Section 1267, MCL 380.1267.

The School District reserves the right to reject any or all proposals, to award Project components by component, group of components, or total Project, to accept any or all alternatives, to accept any proposal in whole or in part, to waive any irregularities or informalities which are in the best interest of the School District, and to weigh proposal elements as deemed beneficial to the School District. Any award shall be to the Contractor(s) that the School District considers the lowest responsible bidder.

I. SUBMISSION DEADLINE AND PROPOSAL REQUIREMENTS

The date and time for receipt of Proposals is:

May 23, 2025 at 1:00 pm

1.1 Proposal Envelope. An opaque, sealed envelope containing your Proposal, and any other supporting data to be submitted therewith, must be marked in the lower right hand corner with the following description:

KINGSLEY AREA SCHOOLS
RFP FOR ROOF REPLACEMENT
[PROPOSER'S NAME]
[PROPOSER'S ADDRESS]
[PROPOSER'S TELEPHONE NUMBER]

The envelope must be addressed and timely delivered to:

Joshua T. Rothwell
Superintendent of Schools
Kingsley Area Schools
402 Fenton Street
Kingsley, Michigan 49649

1.2 Late Proposals. Each Proposer is responsible for submission of its Proposal. Proposals or revisions to Proposals received after the date and time specified above

will be rejected for consideration by the School District. Any rejected proposals will be returned to the Proposer unopened. The School District is not liable for any delivery or postal delays.

1.3 Original Proposal and Copies. Each Proposal must be an original and hard copy, and signed by an authorized member of the Proposer's firm. Oral, telephonic, telegraphic, facsimile, or email Proposals will NOT be accepted. Along with the original, signed Proposal, the Proposer shall also submit two (2) copies of the Proposal.

Submitted proposals become the property of the School District and will not be returned. Further, all submitted proposals become subject to the Freedom of Information Act, unless the School District reasonably believes that bidder satisfies exemption criteria and rejects disclosure on such basis.

1.4 Opening of Proposals. The Proposals will be opened at the date and time stated above, by the Superintendent of Schools and/or such other School District administrator authorized by the Board of Education. No immediate award decision will be rendered at the time of Proposal opening. Proposals will not be reviewable by the public, nor disclosed to unauthorized persons prior to Proposal opening. However, after Proposal opening, all Proposals shall be open to public inspection, subject to any applicable disclosure prohibition under Michigan law.

1.5 RFP Clarifications and Addenda.

1.5.1 *Intent to Respond.* Each Proposer who intends to submit a Proposal in response to this RFP may submit, via email, an "Intent to Respond" to Joshua T. Rothwell at jrothwell@kingsleyschools.org with the subject line "Roof Replacement RFP Intent to Respond." The *Intent to Respond* shall include the name of the Proposer, the name of the contact person, and that person's email address. The School District intends to communicate with Proposers via email, including with respect to RFP clarifications and addenda. Those Proposers who fail to properly provide an *Intent to Respond* are not precluded from bidding, however, they will not receive responses to requests for clarification, addenda or other relevant information, and they shall be solely responsible for obtaining any such information in an alternative manner.

1.5.2 *Requests for Clarification.* Proposers must examine this RFP and otherwise satisfy themselves as to the scope of the RFP and their respective responses. After submission of proposals, the School District will not entertain any complaint or claim that the terms of the RFP were misunderstood. Proposers may request clarification of information within the RFP. All such requests should be made in email to Joshua T. Rothwell at the email address given above and with the subject line "RFP Request for Clarification." Written responses to all written requests for clarification will

be made and distributed to all Proposers who submitted an Intent to Respond via addenda. No requests for clarification will be accepted after the close of business four (4) calendar days before the deadline for submission of proposals. The responses to any requests for clarification will be provided to all Proposers who filed an Intent to Respond or are otherwise on record with the School District as having received an RFP.

1.5.3 *Addenda.* If it becomes necessary to revise any part of the RFP, by addition, deletion, clarification, or correction, notice of the revision will be emailed to all Proposers who filed an Intent to Respond in accordance with Paragraph 1.5.1 and otherwise available to all Proposers upon an appropriate request. All addenda shall become a part of the RFP. No Addenda shall be issued after the close of business one (1) day before the deadline for submission of proposals. Each Proposer bears responsibility for confirming prior to submitting a Proposal that s/he has received all issued Addenda. To avoid miscommunication, each Proposer should acknowledge all addenda which it has received, but the failure of a Proposer to receive, or acknowledge receipt of any addendum shall not relieve the Proposer of the responsibility for complying with the terms thereof.

1.5.4 *Availability.* Copies of this RFP and any associated addenda may be received from the Kingsley Area Schools Business Office between the hours of 7:30 a.m. and 4:00 p.m., Monday through Friday, subject to any holidays or school closures, prior to the time and date specified above for the submission of Proposals.

1.6 RFP/Proposal Information Controlling. Each Proposer shall prepare its Proposal based only on the information contained in this RFP, notwithstanding any information that may have been previously provided to, or alternately obtained by, a Proposer. A Proposer noting any inconsistency between the information contained in this RFP and any information previously or alternately obtained should submit a request for clarification. No information communicated verbally or in writing to or from a Proposer shall be effective unless confirmed in writing in this RFP, an addendum to this RFP, a request for clarification response, or other another written response.

1.7 Bonding and Security. Each Proposal must be accompanied by a bid bond, certified check, or irrevocable letter of credit in an amount of five percent (5%) of the bid amount. If a bid bond is posted by a Proposer, it shall be from a surety licensed to do business in the State of Michigan and the attorney-in-fact who executes the bid bond on behalf of the Proposer shall attach a certified, current copy of its power of attorney. In the event a certified check is submitted, it shall be made payable to "Kingsley Area Schools," and the School District shall not be liable for any interest earned thereon. The security, in whatever form, shall be forfeited in its entirety as

liquidated damages, and not as a penalty, if the Proposer withdraws its Proposal after the due date for submission of Proposals or, upon acceptance of its Proposal by the School District, Proposer fails to execute the form of Contract, including the provision of insurance and bonds acceptable to the School District, within thirty (30) days of an award of the Contract to Proposer. Security shall be returned to all other Proposers within a reasonable time after the award and execution of a Contract by the successful Proposer.

1.8 Reservation of Rights. It is the intent of the School District to award any Contract in due course after a reasonable period of time to evaluate Proposals in light of the RFP requirements. The School District reserves the right to waive any irregularity in the RFP process or any Proposal, and the right to award the Contract to other than the Proposer(s) submitting the lowest bid, as permitted by law. The School District reserves the right to request additional information from any or all Proposers, including an oral interview to discuss, clarify, and answer any questions regarding the Proposal. The School District reserves the right, in its sole discretion (for this provision and for all other provisions contained in this RFP), to accept or reject, in whole or in part, any or all Proposals with or without cause. Grounds for rejection of Proposals may include, but are not limited to:

- Failure of Proposal to conform to RFP requirements
- Submitting a Proposal imposing conditions which would modify the terms and conditions of the RFP or limit the Proposer's liability to the School District on any awarded contract
- Submitting a Proposal determined by the School District to be unreasonable in price
- A Proposal is received by a Proposer determined by the School District not to be a responsible Proposer
- Failure to furnish a bond or security as required by the RFP
- Any other reason deemed relevant by the School District and which is consistently applied

1.9 Release of Claims. Each Proposer submitting its Proposal releases the School District from any and all claims arising out of, and related to, the RFP process and the selection of a contractor.

1.10 Proposer Bears Costs of Proposal. A Proposer is responsible for any and all costs it incurs (or that are incurred by others on its behalf) in preparing or submitting

a Proposal, in otherwise responding to this RFP, or in any negotiations incidental to its Proposal or this RFP.

1.11 Modification or Withdrawal of Proposals.

1.11.1 Proposals submitted early may be modified or withdrawn prior to the submission deadline. Any modified or resubmitted Proposal shall be submitted in the same fashion as required by this RFP and shall be worded so as not to reveal the amount of the original proposal sum.

1.11.2 Proposals submitted and not timely modified or withdrawn shall be irrevocable for a minimum period of ninety (90) calendar days following the submission deadline.

1.12 Economy of Preparation. Proposals shall be prepared simply, providing a concise description of the Proposer's ability to meet the requirements of this RFP.

1.13 Bid Signature. The bid proposal shall be signed by the person responsible for the decision as to services and costs being offered. In the case of a joint proposal, each party must certify those services and costs being offered by its own firm. Unless otherwise agreed by the School District in writing, each party to a joint proposal will be jointly and severally responsible for all services offered in the proposal, regardless of who produces them.

1.14 Bid Preparation Costs. All costs incurred for bid preparation, site visitation and investigations, initial engineering analyses, presentations, or contract negotiation, are the responsibility of each respective Contractor and will not be reimbursed by the School District.

1.15 Collusive Bidding and Relationship Disclosure.

1.15.1 The Proposer certifies that their Proposal is made without any previous understanding, agreement or connection with any person, firm, or company making a Proposal for the same project and is in all respects fair and without outside control, collusion, fraud, or other illegal action.

1.15.2 The Proposer shall submit a Familial Relationship Disclosure in substantially the form attached hereto as **Attachment A**.

1.15.3 The Proposer shall submit an Iran Economic Sanctions Act Certification in substantially the form attached hereto as **Attachment B**.

1.16 Pre-Bid Walk of Facilities.

1.16.1 The School District may conduct a pre-bid walk of the facilities on a date to be determined. The Proposer is strongly encouraged to attend any such walk-through because, if provided, *no other walks will be guaranteed*. The Proposer may ask questions about facilities, equipment, repairs, and the RFP during such walk, answers to which may be given immediately or at a later date in accordance with the process described above. If a Proposer does not attend any such pre-bid walk-through, it shall provide along with its proposal an explanation why the School District should be confident that Proposer understands the scope of work to be provided pursuant to this RFP.

1.16.2 The School District reserves the right to reject the proposal of any Proposer failing to attend any such pre-bid walk and failing otherwise to explain in writing why the Proposer has at least equivalent knowledge of the School District's facilities as other Proposers who attended the walk-through.

II. SELECTION TIMELINE, CRITERIA, AND EVALUATION

2.1 The RFP shall be released and considered on the following schedule:

Release of RFP	May 9, 2025
Deadline for Requests for Clarification and Addenda	May 19, 2025 at 4:00 pm
Proposals Due	May 23, 2025 at 1:00 pm
Proposer Interviews (if applicable)	To be determined
Contract Award	Week of May 27, 2025
Commencement of Service	June 14, 2025

The School District reserves the right, in its sole discretion, to change or eliminate any or all portions of the above-identified selection timeline, except for the deadline for submission of proposals, as it determines to be in its best interest, with or without notice to Proposers.

2.2 **Proposal Information.** Proposals must demonstrate an understanding of the scope of work and the ability to accomplish the tasks set forth herein and must include information that will enable the School District to determine the Proposer's overall qualifications. Each Proposal shall include the information identified below and any other information required by this RFP, but may also include any other information that the Proposer feels is significant with respect to the School District making an informed decision relative to the Proposal.

2.2.1 Bid security as required by Section 1.7.

2.2.2 Original bid document and copies as required by Section 1.3.

2.2.3 The Proposal shall include a cover letter, including a brief executive summary, the legal name of the Proposer and a brief statement of its history, and a statement of whether the Proposer is a sole proprietor, a partnership, corporation, or other legal entity. The cover letter shall be on company letterhead and signed by a person authorized to bind the Proposer in contract.

2.2.4 The Proposed Contract Sum shall be identified on, and in compliance with, the Proposal Form attached hereto as **Attachment C**.

2.2.4.1 The Proposed Contract Sum shall be identified as a total dollar amount, but the Proposer shall provide an adequate explanation how its costs have been computed. Proposer is encouraged to provide an explanation as to how its costs have been computed, including, without limitation, separate line items for materials, equipment and labor. Other pricing methods and alternates may be considered, but only if the Proposer is first considered responsive to the pricing requirements identified above.

2.2.4.2 Voluntary alternative pricing *may* be provided, so long as: (i) base pricing is provided, (ii) the required alternative pricing is provided, and (iii) the voluntary alternative pricing is clearly identified in the Bid Proposal as to scope, cost, and timing.

2.2.5 It is the responsibility of each Proposer before submitting a Proposal to: (a) examine and carefully study the requirements of this RFP, (b) visit the site to become familiar with the work and to satisfy Proposer as to the general, local, and site conditions that may affect cost, progress, and performance of the work (the Proposer's Proposal shall be deemed to be based upon all such conditions that could have been reasonably identified by such visit(s)), (c) become familiar with and satisfy Proposer as to all federal, state, and local laws and regulations that may affect cost, progress, and performance of the work, (d) promptly give the School District written notice of all conflicts, errors, ambiguities, or discrepancies that Proposer discovers in this RFP and confirm that the written resolution thereof by the School District is acceptable to Proposer, and (e) determine that the RFP is sufficient to indicate and convey understanding of all terms and conditions for the performance of the work

2.2.6 By submitting a Proposal, each Proposer is attesting to the following: (a) Proposer has read and understands the RFP and the Proposal is made in accordance therewith, (b) Proposer warrants that it is familiar with the local conditions (e.g., buildings, facilities, weather) under which the work will

be performed, and (c) Proposer's price is based upon personnel, labor, services, and equipment described in the RFP and in accordance with all terms and conditions without exception.

2.2.7 The Proposer shall submit a statement of the Proposer's qualifications, including any evidence that they are currently providing similar services for other K-12 school districts of similar size and scope as the School District, particularly identifying outstanding contracts.

2.2.8 If applicable, the Proposer shall acknowledge in writing all Addenda received and reviewed prior to submission of its Proposal.

2.2.9 The Proposal shall include background information and qualifications of the personnel who will be involved with the School District, including a list of proposed management staff, and describe the chain of command and reporting relationships.

2.2.10 The Proposer shall provide a list of at least three (3) references, including contact names, addresses, and phone numbers, from separate entities who have contracted with Proposer to receive similar services.

2.2.11 The Proposer shall provide evidence of its ability to furnish insurance required by this RFP and its financial stability.

2.2.12 The Proposer shall acknowledge and agree to comply with all applicable federal, state, and local laws, rules, regulations, codes, ordinances and policies that now or hereafter apply to Michigan public schools and services to be provided, particularly including the Revised School Code and School Building Construction Act.

2.2.13 The Proposer shall provide a list of all litigation, arbitrations, mediation and/or regulatory proceedings for the past five years related to Proposer's provision of services, working conditions, and employment practices. It is not contemplated that workers' compensation or unemployment proceedings be discussed pursuant to this section.

2.2.14 The Proposer shall specifically identify and explain any and all complaints or requested exceptions to its compliance with the requirements of this RFP (and, if applicable, the proposed form of Contract). **The failure to specifically identify and explain an exception shall be deemed an express agreement to be bound by the terms of the RFP (and, if applicable, the proposed form of Contract).**

2.3 Evaluation of Proposals. The purpose of this RFP is to consider a contractual relationship with an experienced and qualified entity to provide complete roof replacement and warranty services to the School District in the most efficient and cost-effective manner possible while, at the same time, maintaining the highest level of safety and reliability. Given the complexity of the services to be provided, every aspect of the operation may not be detailed in this RFP. The Proposer must document their expertise, experience, and approach based on their understanding of the School District's requirements.

The School District will evaluate Proposal based on cost and responsibility factors, including but not necessarily limited to the following:

Cost: The total cost for all materials, equipment, supplies, labor, and services for the Project.

Adherence to RFP: Conformance, in both content and presentation, to the parameters established in this request.

Relevant Experience: Proposer's relevant experience with the required work, including, if applicable, work at K-12 public school facilities of comparable size and complexity.

Qualifications: Qualifications and experience of the Proposer's key staff to be assigned to the Project.

Timeliness: The Proposer's ability to complete work specified in this RFP in a timely fashion.

Responsiveness: The Proposer's ability to meet quickly with School District officials, Proposers, etc., when necessary.

Team Compatibility: The Proposer's ability to work with students, School District employees, parents, community members, Proposers, consultants, and governmental officials based on references and interviews.

It is understood that all labor and materials must be competitively bid and awarded, if at all, to the lowest responsible bidder. The School District may consider a number of factors in determining a Proposer's "responsibility," and it is expressly understood that the School District is not confined to the above-referenced list or any other information required or provided in response to this RFP.

2.3.1 The School District shall have the right to take such steps as are necessary to determine the ability of the Proposer to perform the work in a prompt and efficient manner in accordance with the RFP. In determining the qualifications and responsibilities of the Proposer, the School District shall take

into consideration those criteria listed in Section 2.2 and any other consistently-applied information the School District deems necessary.

2.3.2 The School District reserves the right, but shall not be obligated, to select one or more Proposers for post-Proposal investigation and discussion. Such investigations and discussions, if they occur, will involve only Proposers who submit Proposals falling within a competitive range to be determined by the School District. Proposals will be generally evaluated based on quality of response to this RFP, apparent capability of Proposer in the areas of management, business stability, performance history, human resources, and cost.

2.3.3 The School District reserves the right to reject any and all Proposals and to waive all informalities and/or technicalities where the best interest of the School District may be served, including the right to award a Contract without further discussion or negotiation, based on the terms of this RFP.

2.4 Contract Award and Requirements.

2.4.1 The Contract will be in the form attached, except that the School District may elect in its sole discretion to further negotiate the terms of the Contract as permitted by law, including competitive bidding requirements. Whether the Contract is premised on the RFP and accepted portions of the Proposer's response or a separate stand-alone agreement, the governing document shall be referred to herein as the "Contract."

2.4.2 The award of a Contract is contingent upon securing an acceptable Proposal, as determined within the School District's sole discretion, in compliance with applicable laws. A Contract shall be binding and enforceable only upon the following conditions: (a) successful negotiation of terms in accordance with Section 2.4.1, if applicable, and (b) authorization by the School District's Board of Education.

2.4.3 The Proposer shall commence work on June 14, 2025 (or earlier, if agreed to by the School District) and shall be substantially completed on or before August 15, 2025. A proposed Project schedule must be provided for the Proposer's scope of work required or permitted by this RFP. The School District and all Proposers recognize that this schedule may be modified by the School District, in its sole and reasonable discretion, to suit its particular needs.

2.4.4 Insurance.

2.4.4.1 The Proposer shall insure jointly the liability of itself, the School District, and their duly authorized representatives for damage to property or injury to persons which arise as a result of the Contract and the duties of the Proposer which arise therefrom. Such insurance shall be secured from an insurance company authorized by law to transact the business of insurance in the State of Michigan. Proof of such insurance, a statement of coverage limits and a copy of the applicable policy shall be provided to the School District prior to execution of the Contract. Failure to do so shall be a justifiable basis to act against the Proposer's bid security.

2.4.4.2 The Proposer shall maintain insurance coverage satisfactory to the School District, including with respect to coverage limits and deductibles, and as set forth below or as required by law during the term of the Contract, and shall be extended to include the School District as an additional insured. The proposed insurance provider(s) must be recognized to do business in the state. The Proposer shall furnish evidence thereof to the School District not less than thirty (30) calendar days before coverage is required and services are scheduled to begin pursuant to the Contract. Any consultants or subcontractors of the Proposer shall provide insurance coverage at least equal to that provided by the Proposer, and those consultants or subcontractors shall also provide certificates of insurance to the School District. Insurance must be occurrence-based and maintained throughout the Project and for a period of not less than 12 months beyond the date of completion, or claims-made and maintained throughout the Project and for a period of not less than 7 years beyond the date of completion. Certificates of insurance shall contain a provision that coverage afforded under the policies will not be canceled, reduced, or allowed to expire until at least 60 days' prior written notice has been given to the School District.

2.4.4.3 The Proposer shall maintain such public liability insurance that will protect the Proposer from any claims for damages for personal injury, including death, and damage to property that may arise from operations under, related to, or about the Contract.

2.4.4.4 The Proposer shall maintain such workers' compensation insurance as will protect the Proposer from claims that may arise from operations under, related to, or about the Contract.

2.4.4.5 The following types of insurance, limits of liability, and policy extensions are required of the Proposer and (except for limit) all sub-contractors:

Workers Compensation and Employers Liability Insurance
Coverage A – Statutory
Coverage B – \$1,000,000 Per Accident

Broad Form Comprehensive General Liability Insurance (including –
Premises, Contractual, Products & Completed Operations – Including
Broad Form Extensions)

Each Occurrence	\$1,000,000
General Aggregate	\$2,000,000
Products & Completed Operations Aggregate	\$3,000,000
Personal Injury & Advertising Injury	\$1,000,000
Fire/Legal	\$1,000,000

Comprehensive Automobile Liability Insurance (owned, hired, and
non-Owned automobiles)

Bodily & Property Damage \$1,000,000 Combined Single Limit

2.4.5 Any Contract shall incorporate the terms of this RFP and accepted portions of the Proposer's response thereto. As described above, the Contract will either be premised on (the form of agreement attached as **Attachment D**, subject to: (a) the School District's ability, in its sole and absolute discretion, to negotiate certain Contract terms, and (b) any specific exception to the Contract's terms as identified and explained in writing by the Proposer pursuant to Section 2.2.14. In the event of any inconsistency within or between the Contract, the RFP, the response, or any other contract document, the provision that is most favorable to the School District (as determined in the School District's sole discretion) shall govern. Any submitted Proposal is an offer to enter into a contract based upon the foregoing.

III. DESCRIPTION OF SERVICES

3.1 Generally. Proposer shall furnish all labor, materials, tools, equipment, and services required to replace the roof on the School District's middle school, located at 403 Blair Street, Kingsley, Michigan 49649, consistent with the requirements listed herein, including any attachments to this RFP. The roof replacement requirements are further described in Attachment E, attached hereto and incorporated herein by reference. The scope of services may change as the project progresses in the School District's sole discretion. Environmental Architects shall act as the architect on the Project, and Trane will assist the School District as the Project's manager.

3.2 Compensation.

3.2.1 In consideration for work on the Project, the School District shall pay to Proposer all sums due and owing and calculated in accordance with the Proposed Contract Sum (as may be modified by negotiation, to the extent permitted by law) and the billing methodology prescribed in the Proposal and accepted by the School District.

3.2.2 Proposer shall submit to the School District an invoice for services no more frequently than monthly, seeking payment for services rendered during the preceding month. Statements must provide detail that will allow the School District to verify costs and expenses incurred. The School District shall make payments within thirty (30) days of receiving Proposer's invoice, unless and to the extent the School District reasonably disputes same in good faith.

3.2.3 The School District reserves the right, prior to an award of Contract, to evaluate and negotiate and/or reject any unit price that is determined by the School District to be unreasonable in amount.

3.2.4 The School District reserves the right to correct mathematical errors in terms, extensions and additions by the Proposer. Any School District-corrected Proposal sum total shall take precedence over the Proposer's inaccurately computed Proposer sum total.

3.3 Equipment. Proposer's base bid shall be premised on providing and maintaining all equipment necessary to provide the services required herein.

3.4 Prime Responsibilities. The Proposer assumes responsibility for all services offered in the Proposal, regardless of who actually provides such services and whether the selected Proposer utilizes separate consultants or subcontractors. The selected Proposer shall be the sole point of contact with regard to contractual matters, including payment of any and all charges resulting from the contract.

3.5 Taxes. The selected Proposer shall be solely responsible for all sales, use, and any other taxes related to the provision of services required by this RFP. It is acknowledged and agreed that the School District is a tax-exempt entity.

3.6 Project Schedule. Within ten (10) days after receiving notice of award, unless the School District requires a response sooner, the Proposer shall provide a schedule of services to be performed that complies with the timeline for substantial completion identified above. The School District shall review and, if acceptable, approve the schedule of services. Once approved, the schedule shall not be exceeded without the School District's prior written consent, which may be provided or withheld in its sole discretion.

3.7 Performance/Payment Bonds. Prior to commencing services as set forth herein, Proposer shall provide performance and payment bonds, each for 100% of the bid amount, and which shall otherwise comply with the requirements of MCL 129.201, et seq. The cost of performance and payment bonds are deemed included within the bid amount. If the bid amount is less than \$50,000, the School District may reject, in its sole discretion, the Proposer's obligation to provide performance and payment bonds, or may require bonds in an amount less than 100%.

3.8 Records and Reporting Requirements.

3.8.1 The Proposer shall make available at any time to the School District all drawings, specifications, instruments of service, subcontractor agreements, operating records, or any other document or information that the School District may reasonably request. Additionally, the Proposer will provide the data to the School District on final cost reports and other information mutually agreed on by the School District and the Proposer.

3.8.2 The Proposer shall be required to provide all data necessary for the School District to timely file all reports required by the State of Michigan, if any.

3.9 Termination of Contract.

3.9.1 In addition to any other rights the School District may have, it shall have the right to declare the Proposer in default if:

- 3.9.1.1 Proposer becomes insolvent, makes an assignment for benefit of creditors, or if a petition in bankruptcy is filed by or against it;
- 3.9.1.2 Proposer abandons the work;
- 3.9.1.3 Proposer refuses to proceed with the work when and as directed by the School District or fails to correct within a reasonable correction period of not more than seven (7) days any unsatisfactory performance after receiving notice from School District of such unsatisfactory performance;
- 3.9.1.4 Proposer sublets, assigns, transfers, conveys, or otherwise disposes of the agreement other than as herein specified;

- 3.9.1.5 The School District Board of Education determines that Proposer is, or has been willfully or in bad faith, violating any of the provisions of the Contract;
- 3.9.1.6 Any applicable laws have been violated by Proposer or its agents, servants, or employees;
- 3.9.1.7 In the sole determination of School District, Proposer provides its services in a manner that imperils the safety of others;
- 3.9.1.8 The Proposer's licenses or permits that are legally required to perform service called for by the Contract have been suspended or revoked;

During the course of the Contract, a meeting may be called at any time by the Proposer or the School District to review the quality of the services provided or any other issue that may arise.

3.9.2 The School District shall have the right to terminate the Contract for any or no reason, without penalty, by providing seven (7) days' prior written notice.

3.9.3 In the event of a termination, the Proposer shall be entitled only to compensation for those services properly provided to the date of termination. Proposer shall have no right of any special or consequential damages in the event of such termination.

3.6 Hold Harmless/Indemnification Agreement.

The Proposer shall hold harmless and indemnify the School District and its respective officers, agents, employees and from every claim or demand, including the cost of legal defense, by reason of:

3.6.1 Injury to the Proposer's or School District's respective employees, and any injury to person or property sustained by the Proposer or by any person, firm, or corporation employed directly or indirectly by the Proposer in connection with the Proposer's negligent or wrongful performance under the Contract.

3.6.2 Injury caused by the Proposer's Employees and any injury to person or property sustained by any person, firm, or corporation, caused by an act, neglect, default, or omission of the Proposer, by any person, firm, or

corporation directly or indirectly employed by the Proposer in connection to the Proposer's negligent or wrongful performance under the Contract.

Attachments to RFP: Attachment A – Familial Disclosure Form
Attachment B – Iran Economic Sanctions Act Certification
Attachment C – Proposal Form & Details
Attachment D – Form of Contract
Attachment E – Scope of Services / Specifications

Attachment A – Familial Disclosure Form

AFFIDAVIT OF _____
(insert name of affiant)

STATE OF MICHIGAN)
)ss
COUNTY OF _____)

_____ makes this Affidavit under oath and states as follows:

(insert name of affiant)

1. I am a/the:

- ☐ President
- ☐ Vice-President
- ☐ Chief Executive Officer
- ☐ Member
- ☐ Partner
- ☐ Owner
- ☐ Other (please specify) _____

of [insert name of contractor], a bidder for roof replacement services for Kingsley Area Schools.

2. I have personal knowledge and/or I have personally verified that the following are all of the familial relationships existing between the owner(s) and the employee(s) of the aforementioned contractor and the school district's superintendent and/or board members:

3. I have authority to bind the aforementioned contractor with the representations contained herein, and I am fully aware that the school district will rely on my representations in evaluating bids for the Roof Replacement services.

4. I declare the above information to be true to the best of my knowledge, information and belief. I could completely and accurately testify regarding the information contained in this affidavit if requested to do so.

(signature of affiant)

Dated: _____

Subscribed and sworn before me in _____ County,
Michigan, on the ____ day of _____, 20____

(signature)

(printed)

Notary public, State of Michigan, County of _____

My Commission expires on _____

Acting in the County of _____

Attachment B – Iran Economic Sanctions Act Certification

I am the _____ (title) of _____ (bidder), or I am bidding in my individual capacity ("Bidder"), with authority to submit a binding bid for the provision of roof replacement services for Kingsley Area Schools. I have personal knowledge of the matters described in this Certification, and I am familiar with the Iran Economic Sanctions Act, MCL 129.311, et seq. ("Act"). I am fully aware that the school district will rely on my representations in evaluating bids.

I certify that Bidder is not an Iran-linked business, as that term is defined in the Act. I understand that submission of a false certification may result in contract termination, ineligibility to bid for three (3) years, and a civil penalty of \$250,000 or twice the bid amount, whichever is greater, plus related investigation and legal costs.

(signature)

(printed)

(date)

Attachment C – Proposal Form

This Proposal has been prepared to provide the School District with all the information requested in the RFP. The undersigned certifies that the RFP has been carefully examined and that the Proposal contained herein meets or exceeds the scope of services as outlined therein, all of which shall be completed within the required Project schedule. The undersigned further certifies that, if it has any objection to the requirements of the RFP, or if it wishes to add to or delete therefrom (including, but not limited to, the proposed contract language), such objections and/or modifications are stated below:

Proposal Amount: \$ _____

Proposal Amount Breakdown:

- Cost of Labor: \$ _____
- Cost of Materials & Equipment: \$ _____
- Other Costs: \$ _____

Explanation of Proposal Amount (voluntary but recommended):

Please check one: Proposer [____ has / ____ has not] requested, received and reviewed all clarifications and addenda applicable to this RFP.

Signed this ____ day of _____, 2025.

Firm Name: _____

Address: _____

Phone Number: _____ Fax Number: _____

Proposer shall provide necessary information including but not limited to the information below. Proposer can attach additional pages as necessary to provide additional information or explanation.

Kingsley Area Schools
REQUEST FOR PROPOSALS FOR
ROOF REPLACEMENT
PROPOSAL DETAILS

I. CONTRACTOR INFORMATION

The following information will be considered by the District for the purpose of determining the Contractor's "responsibility" and present capability to perform the work. The District's determination is not limited to the information below or any other information required by this RFP.

Name of Firm: _____
Year Established: _____
Address: _____
Telephone Number: _____
Facsimile Number: _____
Contact Person Email Address: _____

A. BUSINESS ORGANIZATION

1. Individual ____ Partnership ____ Corporation ____ Other

2. Years firm has provided services: _____

3. List Principals and officers of the firm:

4. List the various professional and support staff positions and number of personnel in each position in your firm.

Professional Staff

Number

Support Staff

Number

5. Provide a brief history of your firm's experience with public school improvements, if any.

6. List subcontractors or consultants outside your firm you propose using to provide services not available in your firm.

<u>Firm Name</u>	<u>City/State</u>	<u>Specialty</u>	<u>Number of Times Affiliated With You</u>
1.			
2.			
3.			
4.			

7. What is your firm's present workload?

<u>Number of Projects</u>	<u>\$ Value</u>
---------------------------	-----------------

Provide a list of all scheduled projects and unscheduled projects currently being handled by your firm, including an indication of percentage of completion for each project.

8. What is your General Liability Insurance coverage:
- Total amount of protection provided.
 - Amount of deductible, if any.
 - Name, address, phone #, and contact person of Insurance Company.
 - Are the costs of this coverage included in your Fee Proposal? If not, what is that additional cost?
9. Have you had mediation, litigation, arbitration or a claim filed against or settled with your firm by an educational client, or have you filed or settled the same against an educational client? If yes, explain each in detail.
10. Have you had mediation, litigation, arbitration or a claim filed against or settled with your company by any client outside of the educational market or have you filed the same against any other client? If yes, explain each in detail.

11. Has your firm ever been terminated, for cause or for convenience, prior to completion of a project or has your firm ever terminated a contractor contract, for cause or for convenience, prior to completion of a project? If yes, explain each in detail.

B. APPROACH TO ROOF REPLACEMENT

1. Describe in detail, the process you will follow to commence the work on the Project.

2. List what you consider to be the best project you have worked on (as applicable):

Project Name:

School District:

Contact:

Phone Number:

Total Cost:

Square Footage:

Cost per Square Foot:

of Change Orders:

Cost of Change Orders:

Date Completed:

Project Architect:

Why do you consider this school to be your firm's best work?

3. List the top five exceptional educational features of improvements completed by your firm.
4. Describe the method(s) of budget/cost control, quality control, and time schedule adherence you will use for the Project.

5. List the steps in your standard change order procedure, your criteria used to determine whether Additional Service fees will be charged and for change orders, and your fee schedule for change orders.
6. Describe how your firm stays up-to-date on applicable legal and regulatory requirements applicable to school improvements.
8. Some of the work may occur while school is in session. Describe how your firm will minimize any interruptions to our day-to-day operations.
9. List the five (5) most recent school projects for which your firm has acted as Contractor, including a general description of the project and contact information for your primary contact with the school district (as applicable).

Project #1 Name:

School District:

Contact:

Phone Number:

Total Cost:

Square Footage:

Cost per Square Foot:

of Change Orders:

Cost of Change Orders:

Date Completed:

Project #2 Name:

School District:

Contact:

Phone Number:

Total Cost:

Square Footage:

Cost per Square Foot:

of Change Orders:

Cost of Change Orders:

Date Completed:

Project Architect:

Project #3 Name:

School District:

Contact:
Phone Number:
Total Cost:
Square Footage:
Cost per Square Foot:
of Change Orders:
Cost of Change Orders:
Date Completed:
Project Architect:

Project #4 Name:
School District:
Contact:
Phone Number:
Total Cost:
Square Footage:
Cost per Square Foot:
of Change Orders:
Cost of Change Orders:
Date Completed:
Project Architect:

Project #5 Name:
School District:
Contact:
Phone Number:
Total Cost:
Square Footage:
Cost per Square Foot:
of Change Orders:
Cost of Change Orders:
Date Completed:
Project Architect:

Attachment D – Form of Contract

CONTRACTOR AGREEMENT

This Contractor Agreement (“Agreement”) is made this ____ day of _____, 2025 by and between **KINGSLEY AREA SCHOOLS**, a Michigan general powers school district, organized and operated pursuant to the Michigan Revised School Code, whose address is 402 Fenton Street, Kingsley, Michigan 49649 (hereinafter referred to as the “District” or “Owner”), and _____, a _____, whose address is _____ (hereinafter referred to as “Contractor”) for the replacement of the middle school roof system.

RECITALS

WHEREAS, the District issued a Request for Proposal from certified roofing contractors for the replacement of the roof on the District’s middle school located at 403 Blair Street, Kingsley, Michigan 49649 (“RFP”), and the Contractor submitted a Response thereto, dated _____, 2025 (“Response”);

WHEREAS, based on the RFP and Response, the District determined it was in the District’s best interests to award the roof replacement project (“Project”) to the Contractor;

WHEREAS, Contractor is an entity which has represented to have the personnel, expertise, training, capacity and qualifications to timely and satisfactorily perform the Project; and

WHEREAS, the District and Contractor desire to enter into this Agreement to memorialize the parties’ rights and responsibilities related to the Project.

NOW THEREFORE, in consideration of the mutual promises and benefits contained herein, the parties agree as follows:

SECTION 1 – INCORPORATION OF DOCUMENTS

1.1 The RFP, Response, any post-bid documents, and any other documents referenced therein are incorporated into this Agreement as if fully restated and collectively referred to as the “Contract Documents”. In the event of any inconsistency or ambiguity within, between, or among the Contract Documents, the provision that is more beneficial to the Owner shall be deemed to control.

SECTION 2 – DESCRIPTION OF SERVICES / RELATIONSHIP OF PARTIES

2.1 Contractor shall provide the services in accordance with the specifications, as described in the documents identified in Section 1, as required by law, as may otherwise be subsequently agreed to by the parties in writing via amendment, and as any related and incidental services become necessary to properly and timely complete the Project (“Services”). Contractor’s Services include those to be

performed by Contractor, Contractor's subcontractors and suppliers, and Contractor's consultants and agents as enumerated in this Agreement and as reasonably necessary to complete the Project.

2.2 Contractor agrees that the individuals assigned to provide Services under this Agreement, whether by Contractor directly or authorized subcontractors, consultants, or agents, will adhere to applicable professional standards and will perform all Services in a manner consistent with generally accepted proficiency and competency for the type and nature of work rendered.

2.3 Services shall be performed as expeditiously as is consistent with professional skill and care and the orderly progress of the Project. Contractor shall submit for the Owner's approval a schedule for the performance of Services within time frames required by the Contract Documents. It is understood and agreed that minimizing disruption to the District's operations is a critical scheduling consideration.

2.4 In the performance of Services under this Agreement, Contractor (its agents, subcontractors and employees) shall be regarded at all times as performing services as an independent contractor of the District. Contractor shall be regarded, designated, and considered to be the employer with respect to all individuals whom Contractor may select and assign to provide Services under this Agreement.

2.5 Contractor shall follow the highest standards of its profession in performing all Services under this Agreement. Contractor's employees assigned to provide Services shall be fully certified, licensed and approved as necessary to lawfully perform the Services. Contractor and its employees shall at all times comply with applicable federal, state and local laws, rules, regulations and policies, including but not limited to the Revised School Code, the School Building Construction Act, the Iran Economic Sanctions Act, the Michigan Occupational Safety and Health Act, and applicable board policies of the Owner.

2.6 Contractor shall be responsible for all materials and equipment while in transit and until finally and properly installed. Contractor further agrees that any equipment installed pursuant to this Agreement shall be new and of good working order. Contractor shall indemnify and hold the Owner harmless from and against any and all claims of whatever kind or nature for damage to property or for personal injury, including death, and from and against any loss or liability in connection therewith, made by anyone arising out of the negligence or willful misconduct of Contractor under this Agreement, either by Contractor, any subcontractor of Contractor, or by anyone directly engaged or employed by Contractor, provided, however that Contractor shall have no liability hereunder, for any such claims, loss or liability to the extent they arise from or relate to the negligence or willful misconduct of the Owner.

2.7 Contractor is expected to coordinate the timing, location, and performance of Services with the District, the Architect (Environmental Architects), the Project Manager (if any), the District's Designated Representative (if any), and/or any other District administrator identified to the Contractor in writing. The intent of this paragraph is not to direct the Contractor's work, but only to ensure the efficient and smooth performance of same in light of the District's ongoing operations. The Contractor

shall cooperate and coordinate with any other contractors working on the District's overall project to ensure a seamless and efficient installation of improvements.

2.8 In the performance of Services under this Agreement, Contractor (its agents, subcontractors and employees) shall be regarded at all times as performing services as an independent contractor of the District. Within the meaning of all applicable federal, state and local laws, including but not limited to, employment taxes, income taxes, labor relations acts, employment discrimination laws, minimum wage and overtime laws, and workers' compensation laws (collectively, the "Employment Laws"), Contractor is and shall be deemed to be the sole employer of all personnel used to provide services on behalf of Contractor pursuant to this Agreement (the "Contractor Personnel"), and its relationship with the Owner shall be deemed to be that of an independent contractor and not that principal and agent, servant, or employer and employee. As the employer of the Contractor Personnel, Contractor shall: (a) have the power to hire, discipline, recruit, train and terminate Contractor Personnel; (b) instruct the Contractor Personnel on when, where and how to perform their duties; (c) determine the amount of frequency of wage, benefit, salary, bonus and other payments to Contractor Personnel; (d) determine and pay the amount, if any, of reimbursement for business and/or traveling expenses of Contractor Personnel; (e) pay and file with all appropriate governmental entities all necessary payroll information, taxes and deductions, including but not limited to, federal, state and local income taxes, social security taxes, and unemployment taxes; (f) comply with the Employment laws; and (g) pay any and all workers' compensation and other insurance costs and premiums applicable to employers.

2.9 The District's representative for the Project is _____ ("Designated Representative"). The Designated Representative, and any other individual or entity authorized by the District's Board of Education, shall have the right to review and inspect the Contractor's services, work, records, documents, reports, insurance policies, estimates, memoranda, analyses, activities, and any other matter related to the Contractor's performance of Services. Any documents officially submitted by the Contractor related to this Project shall be reviewed and approved by the Designated Representative and any other individual or entity authorized by the District's Board of Education.

2.10 From the moment of creation and regardless of the stage of completion, the District shall be deemed the owner of any documents or instruments of service created by Contractor and used in the performance of Services.

SECTION 3 – FEES, INVOICE AND PAYMENT

3.1 In consideration of Contractor's full and proper performance of all Services under this Agreement, the District will pay to Contractor _____ Dollars (\$ _____), which amount is consistent with the bid amount in Contractor's Response.

3.2 Any significant increase in the scope of work required by this Agreement may be subject to an additional fee if (i) required for the Project, (b) the Owner authorizes the performance of the same in writing prior to Contractor's provision of any such service, including the applicable cost

for such work, and (c) Contractor provides a good faith estimate of the cost of the same prior to the Owner's authorization, including, as applicable pricing in accordance with unit costs set forth in the Contract Documents. The Owner shall not be obligated to pay for any additional services in the absence of the foregoing.

3.3 Invoices shall be submitted no more frequently than monthly and shall coincide with the value of work performed. The District will remit payment on undisputed invoices or undisputed portions of invoices within thirty (30) days of receiving the invoice, but in no event shall a payment be made if such payment will result in the Contractor receiving an amount that exceeds the value of services performed to date. Notwithstanding the foregoing, District shall have no obligation to make any payments until Contractor provides all insurances required by this Agreement.

3.4 Without regard to Section 3.3, the District shall be entitled to retain ten percent (10%) of any amounts paid until the Contractor has successfully and finally completed its Services.

SECTION 4 – INDEMNIFICATION AND INSURANCE

4.1 Contractor shall indemnify and hold the District (and its officers, administrators, employees, and agents) harmless from and against all liabilities, damages, fines, penalties, demands, forfeitures, claims, suits, causes of action or any other liabilities or losses, including all costs of defense, settlement and prosecution along with attorney, expert and other professional fees, arising out of or related to any negligence, wrongful act or breach of this Agreement or the obligation of Contractor or any of its employees or others for whom it is responsible in connection with the performance or non-performance of the Agreement.

4.2 Contractor agrees to procure and maintain insurance coverage in types and amounts reasonably required by the District and in no event less than identified in the Response. Contractor agrees to provide the District certificates of insurance evidencing such coverage prior to commencing any Services. Insurance shall be obtained and maintained from an insurance company licensed to sell insurance in the State of Michigan with an A+ A.M. Best rating, or equivalent. Insurance coverage shall not be reduced or eliminated without at least sixty (60) days prior written notice to the District.

4.3 Contractor's insurances shall be obtained prior to the commencement of Services and shall be maintained either: (a) for at least one year following final completion if occurrence-based, and/or (b) for at least seven years following final completion if claims-made. The District shall be identified as an additional insured on all applicable insurances.

4.4 If the contract sum identified in Section 3.1 is \$50,000 or more, Contractor shall provide performance and payment bonds in an amount equal to 100% of the contract sum. The bonds shall be provided at no additional cost to the District, with the cost thereof deemed included within the Contractor's bid. If the contract sum identified in Section 3.1 is less than \$50,000, the District may still require the Contractor to provide performance and payment bonds, but the cost thereof shall be deemed an additional reimbursable expense. In all other respects, bonds shall minimally comply with MCL 129.201, et seq.

SECTION 5 – EMPLOYEES AND SUBCONTRACTING

5.1 The District reserves the right to approve the identity of representatives and employees of the Contractor and any subcontractors. The District shall have the right to request removal of any employee of the Contractor or any subcontractor from the project at the District's direction, and Contractor will remove or relocate such individual(s) upon 2 weeks' notice, subject to Contractor's status as employer.

5.2 Contractor shall not use subcontractors without the District's prior written consent. If Contractor desires to use a subcontractor, it will notify the District in writing, including the name, scope of work, and any other information requested by the District. The Contractor will be fully responsible to the District for the acts and omissions of subcontractors and of all persons whether directly or indirectly employed by the Contractor. Nothing in this Agreement shall create any contractual relationship between any subcontractor and the District. The Contractor shall not assign, transfer, convey, or otherwise dispose of the Agreement, or any part thereof, or the Contractor's right, title, or interest in same without the prior written consent of the District. The Contractor shall not assign any of the monies due or to become due and payable under the Agreement without prior written consent of the District.

5.3 The Contractor shall not hire any District employee to perform Services without the District's prior written consent, which may be provided or withheld in the District's sole discretion.

SECTION 6 – NONDISCRIMINATION

6.1 Contractor shall not discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of race, color, religion, national origin, age, sex, sexual orientation, gender identity or status, weight, or marital status and other employment matters described by Title VII of the Civil Rights Act of 1964 (Pub. L. 88-352). Breach of this covenant may be regarded as a material breach of the agreement.

SECTION 7 – OWNER'S RIGHT TO CORRECT DEFICIENCIES

7.1 If the Contractor shall neglect to perform the work properly, or should it refuse to remedy any defects in the work due to inferior quality or workmanship or material, or should it in any manner fail to perform any provision of the Agreement, the District, after 7 days' notice to the Contractor, may correct such deficiencies at Contractor's cost and may deduct the cost thereof from any payment due the Contractor. The remedy described in this section is not exclusive and shall have no effect on the Owner's ability to seek recovery for, among others, breach of contract, breach of warranty, and/or performance bond claims.

SECTION 8 – TIME FOR PERFORMANCE

8.1 Time is of the essence of this Agreement. The Contractor acknowledges and agrees that the performance of Services shall commence on _____ and shall be fully and finally completed by _____. The District reserves the right to seek damages for any Contractor delays. For any delays caused to the Contractor, the Contractor's sole remedy shall be an extension in the deadline for performance. In addition, if the Owner has to clean up after Contractor's debris or wastes, fees will be assessed in accordance with the RFP, in addition to actual disposal costs.

SECTION 9 – DISPUTE RESOLUTION

9.1 The parties shall first attempt to resolve disputes informally and, if unsuccessful, through non-binding mediation. Mediation will be conducted in accordance with the Construction Industry Mediation Rules of the American Arbitration Association then in effect. Any claim or dispute not resolved by binding mediation shall be subject to litigation (or, if the parties agree in writing, arbitration).

9.2 A demand for mediation may be filed along with a complaint in litigation or a demand for arbitration, as applicable, but the process of non-binding mediation shall proceed first (so long as permitted by the applicable court or arbitrator). Any demand for mediation filed prior to a complaint in litigation or a demand for arbitration shall toll the statute of limitations for all applicable claims until the mediation process has been completed, successfully or unsuccessfully.

9.3 In the event of any mediation, arbitration or litigation arising out of or relating to this Agreement, Owner reserves the right to require that the mediation, arbitration or litigation, as applicable, be conducted in the general area where the Owner's principal place of business is located. Any mediation with respect to this Agreement shall be non-binding. Any agreements reached in mediation shall be binding in accordance with law.

9.4 The Owner reserves the right in its discretion to require consolidation or joinder of any dispute arising out of or relating to this Agreement which another mediation, arbitration or litigation involving a person or entity not a party to this Agreement, in the event the Owner believes in its sole discretion that such consolidation or joinder is necessary in order to resolve a dispute or avoid duplication of time, expense or effort.

9.5 The Contractor shall include similar dispute resolution provisions in all agreements with subcontractors, sub-consultants, suppliers, or fabricators so retained, thereby providing for a consistent method of dispute resolution between and among the parties to those agreements.

9.6 As a condition precedent to any claim, mediation, arbitration, litigation or other cause of action being brought by the Contractor against the District, the Contractor shall notify the District in writing of any contractual or other dispute within 21 days of the circumstances giving rise to same. The failure to timely provide such notice shall be an irrevocable waiver of any claim or cause of action. Claims and causes of action by the District shall be subject to the applicable statute of limitations under

Michigan law, but in no event shall a claim by the District be deemed untimely if filed within six (6) years of final completion of the Services.

SECTION 10 – TAXES

10.1 The Contractor acknowledges that the District is a tax-exempt entity and any taxes incurred pursuant to performance of this Agreement, including but not necessarily limited to sales and use taxes, shall be the sole responsibility of Contractor.

SECTION 11 – TRAINING, SERVICE/MAINTENANCE, WARRANTIES

11.1 The Contractor shall provide the following training services, service and maintenance services, and warranties at no additional cost to the Owner: _____.

11.2 In addition to, and not in substitution of, Section 11.1, the Contractor shall assign and forward to the Owner any manufacturers' warranties for any equipment, software, or materials relevant to the Project and Services.

SECTION 12 – TERMINATION

12.1 The Owner may terminate this Agreement upon seven (7) calendar days' prior written notice to the Contractor. The Contractor may terminate this Agreement for the Owner's failure to substantially perform its obligations under this Agreement, so long as written notice of such failure has been provided to Owner and Owner fails to cure such failure within thirty (30) days of receiving the notice. If the Agreement is terminated prior to completion of the Services, Contractor shall provide a final report based on the value of the Services reasonably and properly performed as of the date of termination, and the Owner shall make payment for all services properly performed prior to termination, but in no event shall such sum exceed the fee described in Section 3.1.

SECTION 13 – CONFIDENTIALITY

13.1 If Contractor receives information of the Owner that is "confidential" or "business proprietary," Contractor shall keep such information strictly confidential and shall not disclose it to any other person except to its employees, those who need to know the content of such information in order to perform services solely for this Project, or its consultants whose contracts include similar restrictions. The parties acknowledge that the Owner cannot provide similar confidentiality protection due to the applicability of the Michigan Freedom of Information Act and the Michigan Open Meetings Act, among others.

SECTION 14 -- MISCELLANEOUS

14.1 Neither party shall assign this Agreement nor its rights and duties hereunder nor any interest herein without prior written consent from the other.

14.2 This Agreement, including all attachments and documents incorporated herein by reference, constitutes the entire agreement between the parties regarding its subject matter and supersedes any prior or contemporaneous understandings or agreements with respect to the services contemplated.

14.3 None of the terms and provisions of this Agreement may be modified, waived, or amended in any way except by written amendment, change order, or construction change directive.

14.4 Failure by either party at any time to require performance by the other party or to claim breach of any provision of this Agreement shall not be construed as a waiver of any subsequent breach nor affect the validity and operation of this Agreement, nor prejudice either party with regard to any subsequent action to enforce the terms of this Agreement.

14.5 This Agreement shall be interpreted and enforced under the laws of the State of Michigan.

14.6 If any provision of this Agreement should be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions of this Agreement shall not in any way be affected, impaired or prejudiced thereby.

14.7 This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original, but all of which constitute one and the same agreement.

14.8 Notwithstanding any provisions within the Contract Documents, nothing shall be deemed a waiver of any immunity granted to Owner by law or statute, including but not necessarily limited to, governmental immunity under MCL 691.1407.

14.9 Contractor shall not be entitled to additional compensation in the event it is necessary to extend the Project completion date because the Project is delayed due to conditions beyond the control of the Owner, such as strikes, weather, material shortages, site conditions, etc.

14.10 Contractor agrees to retain permanent records relating to the services performed for a period of at least six (6) years following submission of the construction documents, during which period the records will be made available to the Owner upon request.

14.11 The Effective Date of this Agreement shall be the date the last party identified below has executed this Agreement. The parties acknowledge and agree that all of the Contractor's services related to the Project shall be governed by this Agreement, even if such services were performed prior to the Effective Date.

SECTION 15 – AUTHORIZATION

15.1 The Agreement has been duly authorized, executed and delivered by the parties and constitutes a legal, valid and binding obligation upon each of them, enforceable in accordance with its

terms. Each person placing his signature below represents and warrants that he is the signatory duly authorized to execute this Agreement on behalf of the District or Contractor, as is respectively applicable.

KINGSLEY AREA SCHOOLS,
a Michigan general powers school district

By: _____

Joshua Rothwell

Its: Superintendent

Dated: _____

a _____

By: _____

Its: _____

Dated: _____

Attachment E – Scope of Services / Specifications

KINGSLEY AREA SCHOOLS
EXISTING MIDDLE SCHOOL RE-ROOF
KINGSLEY, MICHIGAN
ENV 24-22

SECTION 07 53 24 - EPDM ROOFING SYSTEM

PART 1 GENERAL

1.01 SUMMARY

- A. Furnish and install elastomeric sheet roofing system, including:
 - 1. Roofing manufacturer's requirements for the specified warranty.
 - 2. Preparation of roofing substrates.
 - 3. Wood nailers for roofing attachment.
 - 4. Insulation.
 - 5. Elastomeric EPDM membrane roofing.
 - 6. Metal roof edging and copings.
 - 7. Flashings.
 - 8. Other roofing-related items specified or indicated on the drawings or otherwise necessary to provide a complete weatherproof roofing system.
- B. Disposal of demolition debris and construction waste is the responsibility of Contractor. Perform disposal in manner complying with all applicable federal, state, and local regulations.
- C. Comply with the published recommendations and instructions of the roofing membrane manufacturer.
- D. Commencement of work by the Contractor shall constitute acknowledgement by the Contractor that this specification can be satisfactorily executed, under the project conditions and with all necessary prerequisites for warranty acceptance by roofing membrane manufacturer. Any modification of the Contract Sum will be made in accordance with the stipulations of the Contract Documents stated elsewhere.

1.02 RELATED SECTIONS

- A. Rough Carpentry: Wood nailers associated with roofing and roof insulation.
- B. Sheet Metal Flashing and Trim: Formed metal flashing and trim items associated with roofing.
- C. Roof Accessories: Roof hatches, vents, and manufactured curbs.
- D. Unit Skylights.
- E. Plumbing Piping and Roof Drains.

1.03 REFERENCES

- A. Referenced Standards: These standards form part of this specification only to the extent they are referenced as specification requirements.
 - 1. ASTM C 1177/C 1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2006.
 - 2. ASTM C 1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2013.
 - 3. ASTM D 3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2012.
 - 4. ASTM D 4637 - Standard Specification for EPDM Sheet used in Single-Ply Roof Membrane; 2004.
 - 5. ASTM D 4811 - Standard Specification for Nonvulcanized (Uncured) Rubber Sheet Used as Roof Flashing; 2004.

KINGSLEY AREA SCHOOLS
EXISTING MIDDLE SCHOOL RE-ROOF
KINGSLEY, MICHIGAN
ENV 24-22

6. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2013a.
7. ASTM E 136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace At 750 Degrees C; 2012.
8. FM 1-28 - Design Wind Loads; Factory Mutual System; 2007.
9. FM 1-29 - Roof Deck Securement and Above Deck Roof Components; Factory Mutual System; 2006.
10. FM 4470 - Approval Standard - Class I Roof Covers; current version.
11. PS 1 - Construction and Industrial Plywood; 2009.
12. PS 20 - American Softwood Lumber Standard; 2010.
13. SPRI ES-1 - Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems; 2007. (ANSI/SPRI ES-1).

1.04 SUBMITTALS

- A. Product Data:
 1. Provide membrane manufacturer's printed data sufficient to show that all components of roofing system, including insulation and fasteners, comply with the specified requirements and with the membrane manufacturer's requirements and recommendations for the system type specified; include data for each product used in conjunction with roofing membrane.
 2. Where UL or FM requirements are specified, provide documentation that shows that the roofing system to be installed is UL-Classified or FM-approved, as applicable; include data itemizing the components of the classified or approved system.
 3. Installation Instructions: Provide manufacturer's instructions to installer, marked up to show exactly how all components will be installed; where instructions allow installation options, clearly indicate which option will be used.
- B. Shop Drawings: Provide:
 1. The roof membrane manufacturer's standard details customized for this project for all relevant conditions, including flashings, base tie-ins, roof edges, terminations, expansion joints, penetrations, and drains.
- C. Pre-Installation Notice: Copy to show that manufacturer's required Pre Installation Notice (PIN) has been accepted and approved by the manufacturer.
- D. Executed Warranty as a requirement of project close-out.
- E. Specimen Warranty: Submit prior to starting work.
- F. Samples: Submit samples of each product to be used.

1.05 QUALITY ASSURANCE

- A. Applicator Qualifications: Roofing installer shall have the following:
 1. Current Firestone Master Contractor status or equivalent.
 2. At least ten years experience in installing specified system.
- B. Pre-Installation Conference: Before start of roofing work, Contractor shall hold a meeting to discuss the proper installation of materials and requirements to achieve the warranty.
 1. Require attendance with all parties directly influencing the quality of roofing work or affected by the performance of roofing work.
 2. Notify Architect well in advance of meeting.

KINGSLEY AREA SCHOOLS
EXISTING MIDDLE SCHOOL RE-ROOF
KINGSLEY, MICHIGAN
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1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact and legible.
- B. Store materials clear of ground and moisture with weather protective covering.
- C. Keep combustible materials away from ignition sources.

1.07 WARRANTY

- A. Comply with all warranty procedures required by manufacturer, including notifications, scheduling, and inspections.
- B. Warranty: Manufacturer, 20 year Shield Limited Warranty covering membrane, roof insulation, and membrane accessories.

Warranty Duration	Membrane Thickness, required minimums
20 year	.060 RubberGard EPDM or EcoWhite EPDM

- 1. Limit of Liability: No dollar limitation.
- 2. Scope of Coverage: Repair leaks in the roofing system caused by:
 - a. Ordinary wear and tear of the elements.
 - b. Manufacturing defect in Firestone brand materials.
 - c. Defective workmanship used to install these materials.
 - d. Damage due to winds up to 90 mph.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturers - Roofing System: Firestone Building Products Co., Carmel, IN.
www.firestonebpco.com
 - a. Firestone
 - b. Carlisle
 - c. Or approved equal.
 - 2. Roofing systems manufactured by others may be acceptable provided the roofing system is completely equivalent in materials and warranty conditions and the manufacturer meets the following qualifications:
 - a. Specializing in manufacturing the roofing system to be provided.
 - b. Minimum ten years of experience manufacturing the roofing system to be provided.
 - c. Able to provide a no dollar limit, single source roof system warranty that is backed by corporate assets in excess of one billion dollars.
 - d. ISO 9002 certified.
 - e. Able to provide isocyanurate insulation that is produced in own facilities.
 - 3. Self-Adhered Membrane acceptable as bid alternate provided the roofing system is completely equivalent in materials and warranty conditions listed in this specification, and approved by architect upon contractor proposal.
- B. Manufacturer of Insulation and Cover Board: Same manufacturer as roof membrane.

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- C. Manufacturer of Metal Roof Edging: Same manufacturer as roof membrane.
 - 1. Metal roof edging products by other manufacturers are not acceptable.
 - 2. Field- or shop-fabricated metal roof edgings are acceptable.
- D. Substitution Procedures: See Instructions to Bidders.
 - 1. Submit evidence that the proposed substitution complies with the specified requirements.

2.02 ROOFING SYSTEM DESCRIPTION

- A. Roofing System:
 - 1. Membrane: Ethylene propylene diene monomer (EPDM).
 - 2. Thickness: 60-mil reinforced
 - 3. Membrane Attachment: Fully adhered or voluntary alternate for mechanically fastened
 - 4. Slope: Deck is sloped but not enough; provide additional slope of 1/4 inch per foot (1:48) by means of tapered insulation.
 - 5. Comply with applicable local building code requirements.
 - 6. Provide assembly having Underwriters Laboratories, Inc. (UL) Class A Fire Hazard Classification.
 - 7. Provide assembly complying with Factory Mutual Corporation (FM) Roof Assembly Classification, FM DS 1-28 and 1-29, and meeting minimum requirements of FM 1- 90 wind uplift rating.
- B. Insulation:
 - 1. Total System R Value: 30 or greater.
 - 2. Maximum Board Thickness: 3 inches (50 mm); use as many layers as necessary; stagger joints in adjacent layers.

Iso Insulation Thickness [IN (mm)]	Insulation R Value*
Total Iso Insulation Thickness, nominal	System R Value
6 inches	30R minimum

 - 3. Base Layer: Polyisocyanurate foam board, non-composite.
 - a. Attachment: Mechanical fastening
 - 4. Top Layer: Polyisocyanurate foam board, non-composite.
 - a. Attachment: Mechanical fastening

2.03 EPDM MEMBRANE MATERIALS

- A. Roofing and Flashing Membrane: Black cured synthetic single-ply membrane composed of ethylene propylene diene terpolymer (EPDM) with the following properties:
 - 1. Thickness: 0.060 inch (1.5 mm).
 - 2. Reinforcement: Polyester weft inserted scrim; membrane complying with ASTM D 4637 Type II. black membrane only.
 - 3. Nominal Thickness Tolerance: Plus/minus 10 percent.
 - 4. Sheet Width: Provide the widest available sheets to minimize field seaming.
- B. Acceptable Product: RubberGard Reinforced EPDM Membrane by Firestone or equal.
- C. Membrane Fasteners: Type and size as required by roof membrane manufacturer for roofing system and warranty to be provided; use only fasteners furnished by roof membrane manufacturer.
- D. Flashing Membrane: Self-curing, non-reinforced membrane composed of nonvulcanized EPDM

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rubber, complying with ASTM D 4811 Type II, and with the following properties:

1. Thickness: 0.055 inch (1.4 mm).
 2. Color: Same as field membrane
 3. Acceptable Product: RubberGard EPDM FormFlash by Firestone.
- E. Self-Adhesive Flashing Membrane: Semi-cured 45 mil EPDM membrane laminated to 35 mil (0.9 mm) EPDM tape adhesive; QuickSeam Flashing by Firestone.
- F. Pre-Molded Pipe Flashings: EPDM, molded for quick adaptation to different sized pipes; Firestone EPDM Pipe Flashing.
- G. Self-Adhesive Lap Splice Tape: 35 mil (0.9 mm) EPDM-based, formulated for compatibility with EPDM membrane and high-solids primer; QuickSeam Splice Tape by Firestone.
- H. Splice Adhesive: Synthetic polymer-based, formulated for compatibility with EPDM membrane and metal surfaces; SA-1065 Splice Adhesive by Firestone.
- I. Bonding Adhesive: Neoprene-based, formulated for compatibility with EPDM membrane and wide variety of substrate materials, including masonry, wood, and insulation facings; Bonding Adhesive BA-2004 by Firestone. Verify compliance with local governing codes.
- J. Adhesive Primer: Synthetic rubber based primer formulated for compatibility with EPDM membrane and tape adhesive, with VOC content less than 2.1 lb/gal (250 g/L); QuickPrime Plus LVOC by Firestone.
- K. Seam Edge Treatment: EPDM rubber-based sealant, formulated for sealing exposed edges of membrane at seams; Lap Sealant HS by Firestone.
- L. Pourable Sealer: Two-part polyurethane, two-color for reliable mixing; Pourable Sealer by Firestone.
- M. Water Block Seal: Butyl rubber sealant for use between two surfaces, not exposed; Water Block Seal by Firestone.
- N. Metal Plates and Strips Used for Fastening Membrane and Insulation: Steel with Galvalume coating; corrosion-resistance meeting FM 4470 criteria.
1. Termination Bars: Aluminum bars with integral caulk ledge; 1.3 inches (33 mm) wide by 0.10 inch (2.5 mm) thick; Firestone Termination Bar by Firestone.
- O. Roof Walkway Pads: EPDM, 0.30 inch (7.6 mm) thick by 30 by 30 inches (760 by 760 mm) with EPDM tape adhesive strips laminated to the bottom; QuickSeam Walkway Pads by Firestone.
- P. Yellow Safety Strip: To designate areas of caution on the roof or around rooftop objects. 5.5 inches wide (140 mm) by 100 feet long (30 m) strip and nominal 30 mil (0.76 mm) thick yellow TPO membrane laminated to a white, cured, seam tape. Compatible with TPO and EPDM; QuickSeam Yellow Safety Strip by Firestone.

2.04 ROOF INSULATION AND COVER BOARDS

- A. Polyisocyanurate Board Insulation: Closed cell polyisocyanurate foam with black glass reinforced mat laminated to faces, complying with ASTM C 1289 Type II Class 1, with the following additional characteristics:
1. Thickness: As indicated elsewhere.
 2. Size: 48 inches (1220 mm) by 96 inches (2440 mm), nominal.
 - a. Exception: Insulation to be attached using adhesive or asphalt may be no larger than 48 inches (1220 mm) by 48 inches (1220 mm), nominal.
 3. R-Value (LTTR): 1.0 inch (25 mm) Thickness: 5.7, minimum.
 4. Compressive Strength: 20 psi (138 kPa) when tested in accordance with ASTM C 1289.
 5. Ozone Depletion Potential: Zero; made without CFC or HCFC blowing agents.
 6. Recycled Content: 19 percent post-consumer and 15 percent post-industrial, average.
 7. Acceptable Product: ISO 95+ polyiso board insulation by Firestone

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8. Approved equal.

- B. Insulation Fasteners: Type and size as required by roof membrane manufacturer for roofing system and warranty to be provided; use only fasteners furnished by roof membrane manufacturer.
- C. Adhesive for Insulation Attachment: Type as required by roof membrane manufacturer for roofing system and warranty to be provided; use only adhesives furnished by roof membrane manufacturer.

2.05 METAL ACCESSORIES

- A. Metal Roof Edging and Fascia: Continuous metal edge member serving as termination of roof membrane and retainer for metal fascia; watertight with no exposed fasteners; mounted to roof edge nailer.
 - 1. Wind Performance – PROVIDE WIND CLIPS AT ALL LOCATIONS:
 - a. Membrane Pull-Off Resistance: 100 lbs/ft (1460 N/m), minimum, when tested in accordance with ANSI/SPRI ES-1 Test Method RE-1, current edition.
 - b. Fascia Pull-Off Resistance: At least the minimum required when tested in accordance with ANSI/SPRI ES-1 Test Method RE-2, current edition.
 - c. Provide product listed in current Factory Mutual Research Corporation Approval Guide with at least FM 1-270 rating.
 - 2. Description: Two-piece; 45 degree sloped galvanized steel sheet edge member securing top and bottom edges of formed metal fascia; Firestone EdgeGard.
 - 3. Fascia Face Height: 6 inches (127 mm). All metal fascia with wind clip complying with ES-1.
 - 4. Edge Member Height Above Nailer: 1-1/4 inches (31 mm).
 - 5. Fascia Material and Finish: 24 gage, 0.024 inch (0.06 mm) galvanized steel with Kynar 500 finish in manufacturer's standard color; matching concealed joint splice plates; factory-installed protective plastic film.
 - 6. Length: 144 inches (3650 mm).
 - 7. Functional Characteristics: Fascia retainer supports while allowing for free thermal cycling of fascia.
 - 8. Aluminum Bar: Continuous 6063-T6 alloy aluminum extrusion with pre-punched slotted holes; miters welded; injection molded EPDM splices to allow thermal expansion.
 - 9. Anchor Bar Cleat: 20 gage, 0.036 inch (0.9 mm) G90 coated commercial type galvanized steel with pre-punched holes.
 - 10. Curved Applications: Factory modified.
 - 11. Fasteners: Factory-provided corrosion resistant fasteners, with drivers; no exposed fasteners permitted.
 - 12. Special Shaped Components: Provide factory-fabricated pieces necessary for complete installation, including miters, scuppers, and end caps; minimum 14 inch (355 mm) long legs on corner pieces.
 - 13. Scuppers: Welded watertight.
 - 14. Accessories: Provide matching brick wall cap, downspout, extenders, and other special fabrications as shown on the drawings.
 - 15. Roof Edge Flashing to be .050 Aluminum.
- B. Parapet Copings: Formed metal coping with galvanized steel anchor/support cleats for capping any parapet wall; watertight, maintenance free, without exposed fasteners; butt type joints with concealed splice plates; mechanically fastened as indicated; Firestone PTCF.
 - 1. Wind Performance:
 - a. At least the minimum required when tested in accordance with ANSI/SPRI ES-1 Test Method RE-3, current edition.
 - b. Provide product listed in current Factory Mutual Research Corporation Approval Guide

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- with at least FM 1-90 rating.
2. Description: Coping sections allowed to expand and contract freely while locked in place on anchor cleats by mechanical pressure from hardened stainless steel springs factory attached to anchor cleats; 8 inch (200 mm) wide splice plates with factory applied dual non-curing sealant strips capable of providing watertight seal.
 3. Material and Finish: 24 gage, 0.024 inch (0.06 mm) thick galvanized steel with Kynar 500 finish in manufacturer's standard color; matching concealed joint splice plates; factory-installed protective plastic film.
 4. Dimensions:
 - a. Wall Width: As indicated on the drawings.
 - b. Piece Length: Minimum 144 inches (3650 mm).
 - c. Curved Application: Factory fabricated in true radius.
 5. Anchor/Support Cleats: 20 gage, 0.036 inch (0.9 mm) thick prepunched galvanized cleat with 12 inch (305 mm) wide stainless steel spring mechanically locked to cleat at 72 inches (1820 mm) on center.
 6. Special Shaped Components: Provide factory-fabricated pieces necessary for complete installation, including miters, corners, intersections, curves, pier caps, and end caps; minimum 14 inch (355 mm) long legs on corner, intersection, and end pieces.
 7. Fasteners: Factory-furnished; electrolytically compatible; minimum pull out resistance of 240 pounds (109 kg) for actual substrate used; no exposed fasteners.

2.07 ACCESSORY MATERIALS

- A. Wood Nailers: PS 20 dimension lumber, Structural Grade No. 2 or better Southern Pine, Douglas Fir; or PS 1, APA Exterior Grade plywood; pressure preservative treated.
 1. Width: 3-1/2 inches (90 mm), nominal minimum, or as wide as the nailing flange of the roof accessory to be attached to it.
 2. Thickness: Same as thickness of roof insulation.

PART 3 INSTALLATION

3.01 GENERAL

- A. Install roofing, insulation, flashings, and accessories in accordance with roofing manufacturer's published instructions and recommendations for the specified roofing system. Where manufacturer provides no instructions or recommendations, follow good roofing practices and industry standards. Comply with federal, state, and local regulations.
- B. Obtain all relevant instructions and maintain copies at project site for duration of installation period.
- C. Do not start work until Pre-Installation Notice has been submitted to manufacturer as notification that this project requires a manufacturer's warranty.
- D. Perform work using competent and properly equipped personnel.
- E. Temporary closures, which ensure that moisture does not damage any completed section of the new roofing system, are the responsibility of the applicator. Completion of flashings, terminations, and temporary closures shall be completed as required to provide a watertight condition.
- F. Install roofing membrane only when surfaces are clean, dry, smooth and free of snow or ice; do not apply roofing membrane during inclement weather or when ambient conditions will not allow proper application; consult manufacturer for recommended procedures during cold weather. Do not work with sealants and adhesives when material temperature is outside the range of 60 to 80 degrees F (15 to 25 degrees C).
- G. Protect adjacent construction, property, vehicles, and persons from damage related to roofing

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work; repair or restore damage caused by roofing work.

1. Protect from spills and overspray from bitumen, adhesives, sealants and coatings.
2. Particularly protect metal, glass, plastic, and painted surfaces from bitumen, adhesives, and sealants within the range of wind-borne overspray.
3. Protect finished areas of the roofing system from roofing related work traffic and traffic by other trades.

H. Until ready for use, keep materials in their original containers as labeled by the manufacturer.

I. Consult membrane manufacturer's instructions, container labels, and Material Safety Data Sheets (MSDS) for specific safety instructions. Keep all adhesives, sealants, primers and cleaning materials away from all sources of ignition.

3.02 EXAMINATION

- A. Examine roof deck to determine that it is sufficiently rigid to support installers and their mechanical equipment and that deflection will not strain or rupture roof components or deform deck.
- B. Verify that surfaces and site conditions are ready to receive work. Correct defects in the substrate before commencing with roofing work.
- C. Examine roof substrate to verify that it is properly sloped to drains.
- D. Verify that the specifications and drawing details are workable and not in conflict with the roofing manufacturer's recommendations and instructions; start of work constitutes acceptance of project conditions and requirements.

3.03 PREPARATION

- A. Take appropriate measures to ensure that fumes from adhesive solvents are not drawn into the building through air intakes.
- B. Prior to proceeding, prepare roof surface so that it is clean, dry, and smooth, and free of sharp edges, fins, roughened surfaces, loose or foreign materials, oil, grease and other materials that may damage the membrane.
- C. Fill all surface voids in the immediate substrate that are greater than 1/4 inch (6 mm) wide with fill material acceptable insulation to membrane manufacturer.
- D. Seal, grout, or tape deck joints, where needed, to prevent bitumen seepage into building.

3.04 INSULATION AND COVER BOARD INSTALLATION

- A. Install insulation in configuration and with attachment method(s) specified in PART 2, under Roofing System.
- B. Install only as much insulation as can be covered with the completed roofing system before the end of the day's work or before the onset of inclement weather.
- C. Lay roof insulation in courses parallel to roof edges.
- D. Neatly and tightly fit insulation to all penetrations, projections, and nailers, with gaps not greater than 1/4 inch (6 mm). Fill gaps greater than 1/4 inch (6 mm) with acceptable insulation. Do not leave the roofing membrane unsupported over a space greater than 1/4 inch (6 mm).
- E. Mechanical Fastening: Using specified fasteners and insulation plates engage fasteners through insulation into deck to depth and in pattern required by Factory Mutual for FM Class specified in PART 2 and membrane manufacturer, whichever is more stringent.
- F. Adhesive Attachment: Apply in accordance with membrane manufacturer's instructions and recommendations; "walk-in" individual roof insulation boards to obtain maximum adhesive contact.

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3.05 SINGLE-PLY MEMBRANE INSTALLATION

- A. Beginning at low point of roof, place membrane without stretching over substrate and allow to relax at least 30 minutes before attachment or splicing; in colder weather allow for longer relax time.
- B. Lay out the membrane pieces so that field and flashing splices are installed to shed water.
- C. Install membrane without wrinkles and without gaps or fishmouths in seams; bond and test seams and laps in accordance with membrane manufacturer's instructions and details.
- D. Install membrane adhered to the substrate, with edge securement as specified.
- E. Adhered Membrane: Bond membrane sheet to substrate using membrane manufacturer's recommended bonding material, application rate, and procedures.
- F. Edge Securement: Secure membrane at all locations where membrane terminates or goes through an angle change greater than 2 in 12 inches (1:6) using mechanically fastened reinforced perimeter fastening strips, plates, or metal edging as indicated or as recommended by roofing manufacturer.
 - 1. Exceptions: Round pipe penetrations less than 18 inches (460 mm) in diameter and square penetrations less than 4 inches (200 mm) square.
 - 2. Metal edging is not merely decorative; ensure anchorage of membrane as intended by roofing manufacturer.

3.06 FLASHING AND ACCESSORIES INSTALLATION

- A. Install flashings, including laps, splices, joints, bonding, adhesion, and attachment, as required by membrane manufacturer's recommendations and details.
- B. Metal Accessories: Install metal edgings, gravel stops, and copings in locations indicated on the drawings, with horizontal leg of edge member over membrane and flashing over metal onto membrane.
 - 1. Follow roofing manufacturer's instructions.
 - 2. Remove protective plastic surface film immediately before installation.
 - 3. Install water block sealant under the membrane anchorage leg.
 - 4. Flash with manufacturer's recommended flashing sheet unless otherwise indicated.
 - 5. Where single application of flashing will not completely cover the metal flange, install additional piece of flashing to cover the metal edge.
 - 6. If the roof edge includes a gravel stop and sealant is not applied between the laps in the metal edging, install an additional piece of self-adhesive flashing membrane over the metal lap to the top of the gravel stop; apply seam edge treatment at the intersections of the two flashing sections.
 - 7. When the roof slope is greater than 1:12, apply seam edge treatment along the back edge of the flashing.
- C. Scuppers: Set in sealant and secure to structure; flash as recommended by manufacturer.
- D. Roofing Expansion Joints: Install as shown on drawings and as recommended by roofing manufacturer.
- E. Flashing at Walls, Curbs, and Other Vertical and Sloped Surfaces: Install weathertight flashing at all walls, curbs, parapets, curbs, skylights, and other vertical and sloped surfaces that the roofing membrane abuts to; extend flashing at least 8 inches (200 mm) high above membrane surface.
 - 1. Use the longest practical flashing pieces.
 - 2. Evaluate the substrate and overlay and adjust installation procedure in accordance with membrane manufacturer's recommendations.
 - 3. Complete the splice between flashing and the main roof sheet with specified splice adhesive before adhering flashing to the vertical surface.
 - 4. Provide termination directly to the vertical substrate as shown on roof drawings.

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- F. Roof Drains:
1. Taper insulation around drain to provide smooth transition from roof surface to drain. Use specified pre-manufactured tapered insulation with facer or suitable bonding surface to achieve slope; slope not to exceed manufacturer's recommendations.
 2. Position membrane, then cut a hole for roof drain to allow 1/2 to 3/4 inch (12 to 19 mm) of membrane to extend inside clamping ring past drain bolts.
 3. Make round holes in membrane to align with clamping bolts; do not cut membrane back to bolt holes.
 4. Apply sealant on top of drain bowl where clamping ring seats below the membrane
 5. Install roof drain clamping ring and clamping bolts; tighten clamping bolts to achieve constant compression.
- G. Flashing at Penetrations: Flash all penetrations passing through the membrane; make flashing seals directly to the penetration.
1. Pipes, Round Supports, and Similar Items: Flash with specified pre-molded pipe flashings wherever practical; otherwise use specified self-curing elastomeric flashing.
 2. Pipe Clusters and Unusual Shaped Penetrations: Provide penetration pocket at least 2 inches (50 mm) deep, with at least 1 inch (25 mm) clearance from penetration, sloped to shed water.
 3. Structural Steel Tubing: If corner radii are greater than 1/4 inch (6 mm) and longest side of tube does not exceed 12 inches (305 mm), flash as for pipes; otherwise, provide a standard curb with flashing.
 4. Flexible and Moving Penetrations: Provide weathertight gooseneck set in sealant and secured to deck, flashed as recommended by manufacturer.

3.07 FINISHING AND WALKWAY INSTALLATION

- A. Install walkways at access points to the roof, around rooftop equipment that may require maintenance, and where indicated on the drawings.
1. Use specified walkway pads unless otherwise indicated.
- B. Walkway Pads: Adhere to the roofing membrane, spacing each pad at minimum of 1.0 inch (25 mm) and maximum of 3.0 inches (75 mm) from each other to allow for drainage.
1. If installation of walkway pads over field fabricated splices or within 6 inches (150 mm) of a splice edge cannot be avoided, adhere another layer of flashing over the splice and extending beyond the walkway pad a minimum of 6 inches (150 mm) on either side.
 2. Prime the membrane, remove the release paper on the pad, press in place, and walk on pad to ensure proper adhesion.

3.09 FIELD QUALITY CONTROL

- A. Inspection by Manufacturer: Provide final inspection of the roofing system by a Technical Representative employed by roofing system manufacturer specifically to inspect installation for warranty purposes (i.e. not a sales person).
- B. Perform all corrections necessary for issuance of warranty.

3.10 CLEANING

- A. Clean all contaminants generated by roofing work from building and surrounding areas, including bitumen, adhesives, sealants, and coatings.
- B. Repair or replace building components and finished surfaces damaged or defaced due to the work of this section; comply with recommendations of manufacturers of components and surfaces.
- C. Remove leftover materials, trash, debris, equipment from project site and surrounding areas.

3.11 PROTECTION

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- A. Where construction traffic must continue over finished roof membrane, provide durable protection and replace or repair damaged roofing to original condition.

END OF SECTION

SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Manufactured reglets.
 - 2. Formed roof-drainage sheet metal fabrications.
 - 3. Formed low-slope roof sheet metal fabrications.
 - 4. Formed steep-slope roof sheet metal fabrications.
 - 5. Formed wall sheet metal fabrications.
- B. Related Requirements:
 - 1. Section 074114 "Standing-Seam Roof Panels" for metal flashings as part of metal roof systems.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review special roof details, roof drainage, roof-penetration flashing, equipment curbs, and condition of other construction that affect sheet metal flashing and trim.

1.3 ACTION SUBMITTALS

- A. Product Data: For each of the following:
 - 1. Underlayment materials.
 - 2. Elastomeric sealant.
 - 3. Butyl sealant.
 - 4. Epoxy seam sealer.
- B. Shop Drawings: For sheet metal flashing and trim.
 - 1. Include plans, elevations, sections, and attachment details.
 - 2. Detail fabrication and installation layouts, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled Work.
 - 3. Include identification of material, thickness, weight, and finish for each item and location in Project.
 - 4. Include details for forming, including profiles, shapes, seams, and dimensions.
 - 5. Include details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
 - 6. Include details of termination points and assemblies.
 - 7. Include details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction from fixed points.
 - 8. Include details of roof-penetration flashing.
 - 9. Include details of edge conditions, including eaves, ridges, valleys, rakes, crickets, flashings, and counterflashings.
 - 10. Include details of special conditions.
 - 11. Include details of connections to adjoining work.

1.4 Samples: For each exposed product and for each color and texture specified, 12 inches (300 mm) long by actual width and INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of coping that is ANSI/SPRI/FM 4435/ES-1 tested and FM

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Approvals approved.

- B. Evaluation Reports: For copings, from ICC-ES or an agency acceptable to authority having jurisdiction showing compliance with ANSI/SPRI/FM 4435/ES-1.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For sheet metal flashing and trim.
- B. Special warranty.

1.6 QUALITY ASSURANCE

- A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.
- B. For copings that are ANSI/SPRI/FM 4435/ES-1 tested [and FM Approvals approved], shop shall be listed as able to fabricate required details as tested and approved.
- C. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation.
 - 1. Build mockup of typical roof eave, including built-in gutter and fascia, approximately 10 feet (3.0 m) long, including supporting construction cleats, seams, attachments, underlayment, and accessories.

1.7 WARRANTY

- A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Delta units when tested in accordance with ASTM D2244.
 - b. Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual: Architectural Metal Flashing, Condensation and Air Leakage Control, and Reroofing" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. SPRI Wind Design Standard: Manufacture and install copings tested in accordance with ANSI/SPRI/FM 4435/ES-1 and capable of resisting the following design pressure:
 - 1. Design Pressure: As indicated on Drawings.

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- D. FM Approvals Listing: Manufacture and install copings that are listed in FM Approvals' "RoofNav" and approved for windstorm classification, Class 1-90. Identify materials with name of fabricator and design approved by FM Approvals.
- E. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 SHEET METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Aluminum Sheet: ASTM B209 (ASTM B209M), alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required; with smooth, flat surface.
 - 1. Exposed Coil-Coated Finish: Two-coat fluoropolymer; AAMA 2605. Fluoropolymer finish containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - 2. Color: As selected by Architect from manufacturer's full range.
 - 3. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with minimum total dry film thickness of 0.5 mil (0.013 mm).
- C. Stainless Steel Sheet: ASTM A240/A240M, Type 304, dead soft, fully annealed; with smooth, flat surface.
 - 1. Finish: ASTM A480/A480M, No. 2D (dull, cold rolled).

2.3 UNDERLAYMENT MATERIALS

- A. Self-Adhering, High-Temperature Sheet Underlayment: Minimum 30 mils (0.76 mm) thick, consisting of a slip-resistant polyethylene- or polypropylene-film top surface laminated to a layer of butyl- or SBS- modified asphalt adhesive, with release-paper backing; specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer in accordance with underlayment manufacturer's written instructions.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Carlisle Residential; a division of Carlisle Construction Materials; WIP 300HT.
 - b. GCP Applied Technologies Inc.; Grace Ice and Water Shield HT.
 - c. Henry Company; Blueskin PE200 HT.
 - 2. Low-Temperature Flexibility: ASTM D1970/D1970M; passes after testing at minus 20 deg F (29 deg C) or lower.
- B. Slip Sheet: Rosin-sized building paper, 3 lb/100 sq. ft. (0.16 kg/sq. m) minimum.

2.4 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder if applicable, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and

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bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.

1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
 - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
 - b. Blind Fasteners: High-strength aluminum or stainless steel rivets suitable for metal being fastened.
 2. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
 3. Fasteners for Stainless Steel Sheet: Series 300 stainless steel.
- C. Solder for Stainless Steel: ASTM B32, Grade Sn60 or Grade Sn96, with acid flux of type recommended by stainless steel sheet manufacturer.
- D. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
- E. Elastomeric Sealant: ASTM C920, elastomeric silicone polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- F. Butyl Sealant: ASTM C1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.
- G. Bituminous Coating: Cold-applied asphalt emulsion in accordance with ASTM D1187/D1187M.
- H. Asphalt Roofing Cement: ASTM D4586, asbestos free, of consistency required for application.
- I. Reglets: Units of type, material, and profile required, formed to provide secure interlocking of separate reglet and counterflashing pieces, and compatible with flashing indicated with factory-mitered and -welded corners and junctions.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Cheney Flashing Company.
 - b. Fry Reglet Corporation.
 - c. Heckmann Building Products, Inc.
 - d. Hohmann & Barnard, Inc.
 - e. Keystone Flashing Company, Inc.
 - f. OMG EdgeSystems (formerly W.P. Hickman).
 2. Materials: As follows, as applicable to conditions:
 - a. Stainless steel, 0.019 inch (0.48 mm) thick.
 - b. Aluminum, 0.024 inch (0.61 mm) thick.
 3. Concrete Type: Provide temporary closure tape to keep reglet free of concrete materials, special fasteners for attaching reglet to concrete forms, and guides to ensure alignment of reglet section ends.
 4. Masonry Type: Provide with offset top flange for embedment in masonry mortar joint.
 5. Accessories:
 - a. Counterflashing Wind-Restraint Clips: Provide clips to be installed before counterflashing to prevent wind uplift of counterflashing's lower edge.
 6. Finish: Mill.
- 2.5 FABRICATION, GENERAL
- A. Custom fabricate sheet metal flashing and trim to comply with details indicated and
- FLASHING AND TRIM

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recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required.

1. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
2. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
3. Verify shapes and dimensions of surfaces to be covered and obtain field measurements for accurate fit before shop fabrication.
4. Form sheet metal flashing and trim to fit substrates without excessive oil-canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
5. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.

B. Fabrication Tolerances:

1. Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet (6 mm in 6 m) on slope and location lines indicated on Drawings and within 1/8-inch (3- mm) offset of adjoining faces and of alignment of matching profiles.

C. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.

1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with butyl sealant concealed within joints.
2. Use lapped expansion joints only where indicated on Drawings.

D. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal in accordance with cited sheet metal standard to provide for proper installation of elastomeric sealant.

E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

F. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard[and by FM Global Property Loss Prevention Data Sheet 1-49] for application, but not less than thickness of metal being secured.

G. Seams:

1. Soldered Metals: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.
2. Aluminum with Painted or Coated Finishes: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.

2.6 ROOF-DRAINAGE SHEET METAL FABRICATIONS

A. Hanging Gutters:

1. Fabricate to cross section required, complete with end pieces, outlet tubes, and other accessories as required.
2. Fabricate in minimum 96-inch (2400-mm) long sections.
3. Furnish flat-stock gutter brackets and flat-stock gutter spacers and straps fabricated from same metal as gutters, of size recommended by cited sheet metal standard, but with thickness not less than twice the gutter thickness.
4. Fabricate expansion joints, expansion-joint covers, gutter bead reinforcing bars, and gutter accessories from same metal as gutters. Shop fabricate interior and exterior corners.
5. Expansion Joints: Butt type with cover plate or built in.

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6. Accessories: Wire-ball downspout strainer and valley baffles.
 7. Fabricate from the following material:
 - a. Typical Locations: Aluminum; 0.032 inch (0.81 mm) thick.
 - b. Gutters at Slate Composite Shingle Roof Areas: Stainless steel; 0.016 inch (0.40 mm) thick.
 - B. Downspouts: Fabricate round downspouts to dimensions indicated on Drawings, complete with mitered elbows. Furnish with metal hangers from same material as downspouts and anchors. Shop fabricate elbows. Fabricate from the following materials:
 1. Aluminum: 0.032 inch (0.81 mm) unless otherwise indicated; 0.050 inch (1.27 mm) thick for downspouts extending to grade.
 - C. Scuppers: Fabricate scuppers to dimensions required, with closure flange trim to exterior, 4-inch (100-mm) wide wall flanges to interior, and base extending 4 inches (100 mm) beyond cant or tapered strip into field of roof. Fabricate from the following materials:
 1. Stainless Steel: 0.019 inch (0.48 mm) thick.
- 2.7 LOW-SLOPE ROOF SHEET METAL FABRICATIONS
- A. Copings: Fabricate in minimum 96-inch (2400-mm) long, but not exceeding 12-foot (3.6-m) long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and drill elongated holes for fasteners on interior leg. Miter corners, fasten and seal watertight. Shop fabricate interior and exterior corners.
 1. Joint Style: Butted with expansion space and 6-inch (150-mm) wide, concealed backup plate.
 2. Fabricate from the following materials:
 - a. Aluminum: 0.050 inch (1.27 mm) thick.
 - B. Counterflashing: Shop fabricate interior and exterior corners. Fabricate from the following materials:
 1. Aluminum: 0.032 inch (0.81 mm) thick.
 - C. Roof-Penetration Flashing: Fabricate from the following materials:
 1. Stainless Steel: 0.019 inch (0.48 mm) thick.
- 2.8 WALL SHEET METAL FABRICATIONS
- A. Through-Wall Flashing: Fabricate continuous flashings in minimum 96-inch (2400-mm) long, but not exceeding 12-foot (3.6-m) long, sections, under copings, and at shelf angles. Fabricate discontinuous lintel, sill, and similar flashings to extend 6 inches (150 mm) beyond each side of wall openings; and form with 2-inch (50-mm) high, end dams. Fabricate from the following materials:
 1. Stainless Steel: 0.016 inch (0.40 mm) thick.
 - B. Opening Flashings in Frame Construction: Fabricate head, sill, jamb, and similar flashings to extend 4 inches (100 mm) beyond wall openings. Form head and sill flashing with 2-inch (50-mm) high, end dams. Fabricate from the following materials:
 1. Aluminum, 0.032 inch (0.81 mm) thick; unless otherwise indicated.
 2. Stainless steel, 0.016 inch (0.40 mm) thick; for flashings in contact with concrete or masonry.

PART 3 - EXECUTION

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3.1 INSTALLATION OF UNDERLAYMENT

- A. Self-Adhering, High-Temperature Sheet Underlayment:
 - 1. Install self-adhering, high-temperature sheet underlayment; wrinkle free.
 - 2. Prime substrate if recommended by underlayment manufacturer.
 - 3. Comply with temperature restrictions of underlayment manufacturer for installation; use primer for installing underlayment at low temperatures.
 - 4. Apply in shingle fashion to shed water, with end laps of not less than 6 inches (150 mm) staggered 24 inches (600 mm) between courses.
 - 5. Overlap side edges not less than 3-1/2 inches (90 mm). Roll laps and edges with roller.
 - 6. Roll laps and edges with roller.
 - 7. Cover underlayment within 14 days.
- B. Install slip sheet, wrinkle free, over underlayment before installing sheet metal flashing and trim.
 - 1. Install in shingle fashion to shed water.
 - 2. Lapp joints not less than 4 inches (100 mm).

3.2 INSTALLATION, GENERAL

- A. Install sheet metal flashing and trim to comply with details indicated and recommendations of cited sheet metal standard that apply to installation characteristics required unless otherwise indicated on Drawings.
 - 1. Install fasteners, solder if applicable, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 - 2. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant, as applicable.
 - 3. Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 4. Install sheet metal flashing and trim to fit substrates and to result in watertight performance.
 - 5. Install continuous cleats with fasteners spaced not more than 12 inches (300 mm) o.c.
 - 6. Space individual cleats not more than 12 inches (300 mm) apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
 - 7. Install exposed sheet metal flashing and trim with limited oil-canning, and free of buckling and tool marks.
 - 8. Do not field cut sheet metal flashing and trim by torch.
- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
 - 1. Coat concealed side of stainless steel sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
 - 2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim.
 - 1. Space movement joints at maximum of 10 feet (3 m) with no joints within 24 inches (600 mm) of corner or intersection.
 - 2. Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with sealant concealed within joints.
 - 3. Use lapped expansion joints only where indicated on Drawings.
- D. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws or penetrate

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substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.

- E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- F. Seal joints as required for watertight construction.
 - 1. Use sealant-filled joints unless otherwise indicated.
 - a. Embed hooked flanges of joint members not less than 1 inch (25 mm) into sealant.
 - b. Form joints to completely conceal sealant.
 - c. When ambient temperature at time of installation is between 40 and 70 deg F (4 and 21 deg C), set joint members for 50 percent movement each way.
 - d. Adjust setting proportionately for installation at higher ambient temperatures.
 - 1) Do not install sealant-type joints at temperatures below 40 deg F (4 deg C).
 - 2. Prepare joints and apply sealants to comply with requirements in Section 079200 "Joint Sealants."
- G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter.
 - 1. Pre-tin edges of sheets with solder to width of 1-1/2 inches (38 mm); however, reduce pre-tinning where pre-tinned surface would show in completed Work.
 - 2. Do not solder aluminum sheet.
 - 3. Do not use torches for soldering.
 - 4. Heat surfaces to receive solder, and flow solder into joint.
 - a. Fill joint completely.
 - b. Completely remove flux and spatter from exposed surfaces.
 - 5. Stainless Steel Soldering:
 - a. Tin edges of uncoated sheets, using solder for stainless steel and acid flux.
 - b. Promptly remove acid-flux residue from metal after tinning and soldering.
 - c. Comply with solder manufacturer's recommended methods for cleaning and neutralization.

3.3 INSTALLATION OF ROOF-DRAINAGE SYSTEM

- A. Install sheet metal roof-drainage items to produce complete roof-drainage system in accordance with cited sheet metal standard unless otherwise indicated. Coordinate installation of roof perimeter flashing with installation of roof-drainage system.
- B. Hanging Gutters:
 - 1. Join sections with joints sealed with sealant.
 - 2. Provide for thermal expansion.
 - 3. Attach gutters at eave or fascia to firmly anchor them in position.
 - 4. Provide end closures and seal watertight with sealant.
 - 5. Slope to downspouts.
 - 6. Install gutter with expansion joints at locations indicated on Drawings. Install expansion-joint caps.
- C. Downspouts:
 - 1. Join sections with 1-1/2-inch (38-mm) telescoping joints.
 - 2. Provide hangers with fasteners designed to hold downspouts securely to walls.
 - 3. Locate hangers at top and bottom and at approximately 60 inches (1500 mm) o.c.
 - 4. Connect downspouts to underground drainage system.
- D. Scuppers:

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1. Continuously support scupper, set to correct elevation, and seal flanges to interior wall face, over cants or tapered edge strips, and under roofing membrane.
2. Anchor scupper closure trim flange to exterior wall and solder to scupper.

3.4 INSTALLATION OF ROOF FLASHINGS

- A. Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and cited sheet metal standard.
 1. Provide concealed fasteners where possible, and set units true to line, levels, and slopes.
 2. Install work with laps, joints, and seams that are permanently watertight and weather resistant.

Copings:

- A. Install roof edge flashings in accordance with ANSI/SPRI/FM 4435/ES-1.
- B. Anchor to resist uplift and outward forces in accordance with recommendations in FM Global Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering. property Loss Prevention Data Sheet 1-49 for specified FM Approvals' listing for required windstorm classification.
- C. Anchor to resist uplift and outward forces in accordance with recommendations in cited sheet metal standard unless otherwise indicated.
- D. Interlock exterior bottom edge of coping with continuous cleat anchored to substrate at 16-inch (400-mm) centers.
- E. Anchor interior leg of coping with washers and screw fasteners through slotted holes at 24- inch (600-mm) centers.
- F. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending minimum of 4 inches (100 mm) over base flashing. Install stainless steel draw band and tighten.
- G. Counterflashing: Coordinate installation of counterflashing with installation of base flashing.
 3. Insert counterflashing in reglets or receivers and fit tightly to base flashing.
 4. Extend counterflashing 4 inches (100 mm) over base flashing.
 5. Lap counterflashing joints minimum of 4 inches (100 mm).
- H. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric or butyl sealant and clamp flashing to pipes that penetrate roof.

3.5 INSTALLATION OF WALL FLASHINGS

- A. Install sheet metal wall flashing to intercept and exclude penetrating moisture in accordance with cited sheet metal standard unless otherwise indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
- B. Opening Flashings in Frame Construction: Install continuous head, sill, jamb, and similar flashings to extend 4 inches (100 mm) beyond wall openings.
- C. Reglets: Installation of reglets is specified in Division 03 or 04 Sections, as applicable.

3.6 INSTALLATION TOLERANCES

- A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet (6 mm in 6 m) on slope and location lines indicated on Drawings and within 1/8-inch (3- mm) offset of adjoining faces and of alignment of matching profiles.

3.7 CLEANING

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- A. Clean and neutralize flux materials. Clean off excess solder.
- B. Clean off excess sealants.

3.8 PROTECTION

- A. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.
- B. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures, as determined by Architect.

END OF SECTION

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SECTION 06105 - MISCELLANEOUS CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Wood framing.
2. Miscellaneous lumber.

1.2 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product indicated.

1. Include data for **wood-preserved** treatment from chemical treatment manufacturer and certification by treating plant that materials comply with requirements.

B. Research/Evaluation Reports: For the following:

1. Preservative-treated wood.
2. Power-driven fasteners.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies certified by the American Lumber Standards Committee Board of Review.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive stained or natural finish, mark grade stamp on end or back of each piece, **or omit grade stamp and provide certificates of grade compliance issued by grading agency.**
3. Provide dressed lumber, S4S, unless otherwise indicated.
4. Provide dry lumber with **19** percent maximum moisture content at time of dressing for **2-inch nominal** thickness or less, unless otherwise indicated.

B. Wood Structural Panels:

1. Plywood: DOC PS 1 or DOC PS 2, unless otherwise indicated.

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2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

Wood treated with copper azole preservative meets requirements of model building codes for many applications, and a code evaluation report on this wood (treated with either dissolved copper azole, (CA-C/CA-B), or micronized copper azole, (μ CA-C/ μ CA-B) has been issued by ICC Evaluation Service ([ESR-1721](#)). The dissolved copper azole treatment is listed also in the standards of the American Wood Protection Association (AWPA) for above-ground and ground-contact applications (Use Categories UC1, UC2, UC3A, UC3B, UC4A, and UC4B). comply with all applicable code requirements and Service Conditions for AWPAs Use Categories.

Retention_Standards

Different applications may require different amounts of preservative protection. Below are requirements for copper azole formulations.

2.3

Typical Applications	Use Category*	CA-C	μ CA-C	CA-B	μ CA-B
Above Ground	1,2,3A,3B	.06	.05	.08	.06
Ground/Fresh Water Contact	4A	.15	.14	.21	.15
Sawn Poles & Posts	4B	.31**	.23	.31	.23

- A. Preservative Treatment: In accordance with requirements of ICC Evaluation Report ESR-1721.
- B. Moisture Content: Kiln Drying after treatment (KDAT) required.

Dry after treatment as follows:

- 1. Lumber: 19%, maximum.
- 2. Plywood: 18%, maximum.

- C. Mark each treated item with the treatment quality mark of an inspection agency approved by the American Lumber Standards Committee Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
 - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 - 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
 - 3. Wood framing members less than 18 inches above grade.

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4. Wood floor plates that are installed over concrete slabs directly in contact with earth.

2.4 FIRE-RETARDANT-TREATED MATERIALS

- A. Where fire-retardant-treated materials are indicated, provide materials that comply with performance requirements in **AWPA C20 (lumber) and AWPA C27 (plywood)**. Identify fire-retardant-treated wood with appropriate classification marking of UL, U.S. Testing, Timber Products Inspection, or another testing and inspecting agency acceptable to authorities having jurisdiction.
 1. Use Exterior type for exterior locations and where indicated.
 2. Use Interior Type A High Temperature (HT), unless otherwise indicated.
- B. Fire Treated Sheathing: Fire-Retardant-Treated plywood shall be in accordance to AWPA-UI with approved high temperature interior type A-HT fire retardant. After treatment each panel shall be dried to 15% or less. After FRT treatment panel load capacity rating shall be verified.

2.5 DIMENSION LUMBER

- A. General: Of grades indicated according to the American Lumber Standards Committee National Grading Rule provisions of the grading agency indicated.
- B. Non-Load-Bearing Interior Partitions: **No. 2** grade and **any of** the following species:
 1. Mixed southern pine; SPIB.
 2. Eastern softwoods; NELMA.
 3. Northern species; NLGA.
 4. Western woods; WCLIB or WWPA.
- C. Other Framing: **No. 2** grade and **any of** the following species:
 1. Douglas fir-larch, Douglas fir-larch (north), or Douglas fir-south; NLGA, WCLIB, or WWPA.
 2. Hem-fir or Hem-fir (north); NLGA, WCLIB, or WWPA.
 3. Southern pine; SPIB.
 4. Spruce-pine-fir (south) or Spruce-pine-fir; NELMA, NLGA, WCLIB, or WWPA.

2.6 MISCELLANEOUS LUMBER

- A. Provide miscellaneous lumber for support or attachment of other construction, including the following:
 1. Rooftop equipment bases and support curbs.
 2. Blocking.
 3. Cants.

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4. Nailers.
5. Furring.
6. Grounds.

- B. For items of dimension lumber size, provide **No. 2** grade lumber with **19** percent maximum moisture content of any species.
- C. For exposed boards, provide lumber, with **19** percent maximum moisture content, of western red cedar or northern white cedar; **Finish or 1 Common (Colonial)** grade; NELMA, NLGA, WCLIB, or WWPA.
- D. For concealed boards, provide lumber with **19** percent maximum moisture content and **[any of]** the following species and grades:
 1. Mixed southern pine, No. 2 grade; SPIB.
 2. Eastern softwoods, **No. 2** Common grade; NELMA.
 3. Northern species, **No. 2** Common grade; NLGA.
 4. Western woods, **No. 2 Common** grade; WCLIB or WWPA.

2.7 PANEL PRODUCTS

- A. Miscellaneous Concealed Plywood: **Exterior** sheathing, span rating to suit framing in each location, and thickness as indicated but not less than **1/2 inch (13 mm)**.
- B. Miscellaneous Exposed Plywood: DOC PS 1, A-D Interior, thickness as indicated but not less than **1/2 inch (13 mm)**.
- C. Telephone and Electrical Equipment Backing Panels: DOC PS 1, Exposure 1, C-D Plugged, fire-retardant treated, in thickness indicated or, if not indicated, not less than **1/2 inch (12.7 mm)** thick.

2.8 FASTENERS

- A. General: Where carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Power-Driven Fasteners: CABO NER-272.
- C. Screws for Fastening to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings.

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PART 3 - EXECUTION

3.1 INSTALLATION

- A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate **furring**, nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Securely attach carpentry work as indicated and according to applicable codes and recognized standards.
- C. Countersink fastener heads on exposed carpentry work and fill holes with wood filler.
- D. Wood Structural Panels: Comply with applicable recommendations contained in APA Form No. E30K, "APA Design/Construction Guide: Residential & Commercial," for types of structural-use panels and applications indicated.
- E. Wood Trim Installation: Install with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Cope at returns and miter at corners to produce tight-fitting joints. Use scarf joints for end-to-end joints.
 - 1. Match color and grain pattern across joints.
 - 2. Install trim after gypsum board joint-finishing operations are completed.
 - 3. Install to tolerance of **1/8 inch in 96 inches** (**3 mm in 2438 mm**) for level and plumb. Install adjoining finish carpentry with **1/32-inch** (**0.8-mm**) maximum offset for flush installation and **1/16-inch** (**1.6-mm**) maximum offset for reveal installation.

END OF SECTION 06105

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SECTION 07 92 10 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes joint sealants for the **following applications, including those specified by reference to this Section:**
 - 1. Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
 - 2. Exterior joints in horizontal traffic surfaces.
 - 3. Interior joints in vertical surfaces and horizontal nontraffic surfaces.
 - 4. Interior joints in horizontal traffic surfaces.
- B. See Division 2 Section "Pavement Joint Sealants" for sealing joints in pavements, walkways, and curbing.
- C. See Division 8 Section "Glazing" for glazing sealants.

1.2 PERFORMANCE REQUIREMENTS

- A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.
- B. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

1.3 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Preconstruction field test reports.
- C. Compatibility and adhesion test reports.
- D. Provide a cut sheet and/or material safety data sheet for every sealant used within the building (not including the exterior surface of the building), with VOC levels highlighted.

1.4 QUALITY ASSURANCE

- A. Preconstruction Compatibility and Adhesion Testing: Submit samples of materials that will contact or affect joint sealants to joint-sealant manufacturers for testing according to **ASTM C 1087** to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.

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- B. Preconstruction Field-Adhesion Testing: Before installing elastomeric sealants, field test their adhesion to Project joint substrates according to the method in ASTM C 1193 that is appropriate for the types of Project joints.
- C. Mockups: Build mockups incorporating sealant joints, as follows, to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution:
 - 1. Joints in mockups of assemblies specified in other Sections that are indicated to receive elastomeric joint sealants, which are specified by reference to this Section.

1.5 WARRANTY

- A. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: **Two** years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which elastomeric sealant manufacturer agrees to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.
- B. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles.

2.2 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: **As selected by Architect from manufacturer's full range.**

2.3 SEALANT MATERIALS

- A. Exterior General Use:
 - 1. Single-component polyurethane conforming to ASTM C920, Type S, Class 25, Grade NS

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2. Silicon: one-part silicon sealant, VOC content: maximum 15 grams/liter
3. Acrylic/silicon: water-based sealant, VOC content: 31 grams/liter
- B. Exterior Concealed Joints and Under Thresholds: One-part butyl rubber caulk conforming to FS TT-S-001657, Type I
- C. Exterior Concealed Joints between two assembled rigid surfaces in compression: Polyisobutylene sealant tape conforming to AAMA 804.1
- D. Exterior and Interior Horizontal Joints subject to pedestrian traffic:
 1. Two-part polyurethane conforming to ASTM C920, Class 25, Type M; self-leveling, zero-VOC
 2. One-part polyurethane, VOC content: maximum 45 grams/liter
- E. Interior Non-wet Areas: One-component acrylic latex water-based sealant conforming to ASTM C834, VOC content: maximum 42 grams/liter
- F. Interior Wet Areas: One-part, mildew-resistant silicone rubber conforming to ASTM C920, Type S, Class 25, Grade NS
- G. Sealant Backer Rod: Compressible rod-stock polyethylene foam, polyethylene-jacketed polyurethane foam, butyl-rubber foam, neoprene foam, or other flexible, permanent, durable, nonabsorptive material as recommended for compatibility with sealant by sealant manufacturer
- H. Joint Cleaner, Primer, and Bond Breaker: As recommended by sealant manufacturer
- I. Fiber Expansion Joint Material: Preformed cellular fiber complying with ASTM D1751
- J. Acoustical Sealant: Nonskinning, nonhardening, permanently flexible sealant specifically designed for sealing gypsum wallboard.

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

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PART 3 - EXECUTION

3.1 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants.
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant.
 - a. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air.
 - 2. Remove laitance and form-release agents from concrete.
 - a. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
- B. Joint Priming: Prime joint substrates, **where recommended in writing by joint-sealant manufacturer**, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.2 INSTALLATION

- A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- B. Acoustical Sealant Application Standard: Comply with recommendations in ASTM C 919 for use of joint sealants in acoustical applications as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

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- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.
- G. Installation of Preformed Silicone-Sealant System: Comply with manufacturer's written instructions.
- H. Installation of Preformed Foam Sealants: Install each length of sealant immediately after removing protective wrapping, taking care not to pull or stretch material, producing seal continuity at ends, turns, and intersections of joints. For applications at low ambient temperatures where expansion of sealant requires acceleration to produce seal, apply heat to sealant in compliance with sealant manufacturer's written instructions.
- I. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

END OF SECTION

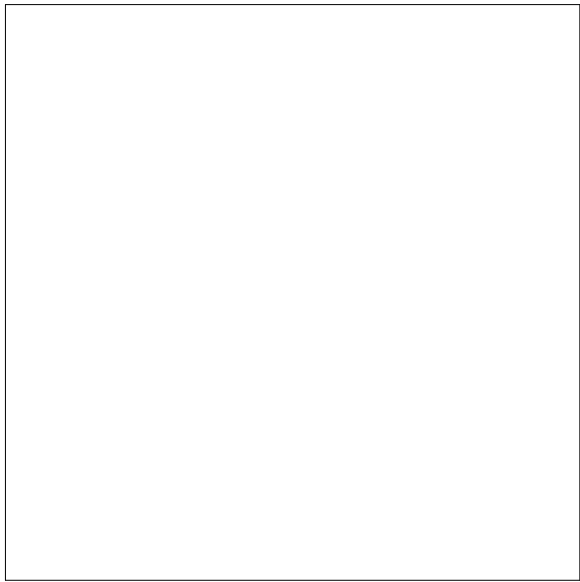
Kingsley Middle School

403 Blair St, Kingsley, MI 49649

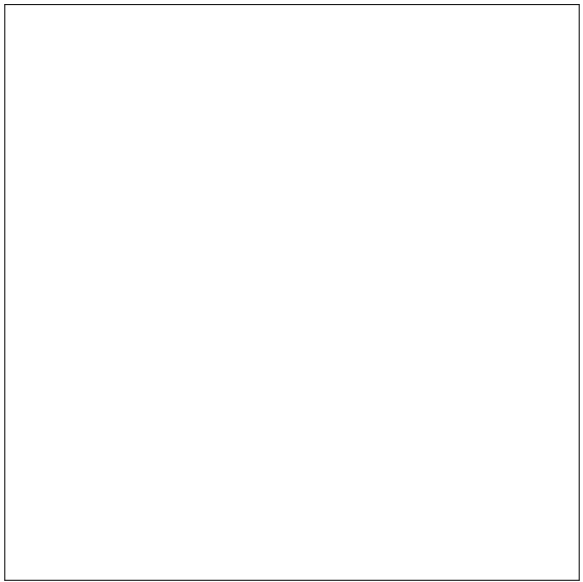
Project Number: 24-22

ARCHITECTURAL	
A3.2	Composite Roof Plan
A3.3	Roof Details

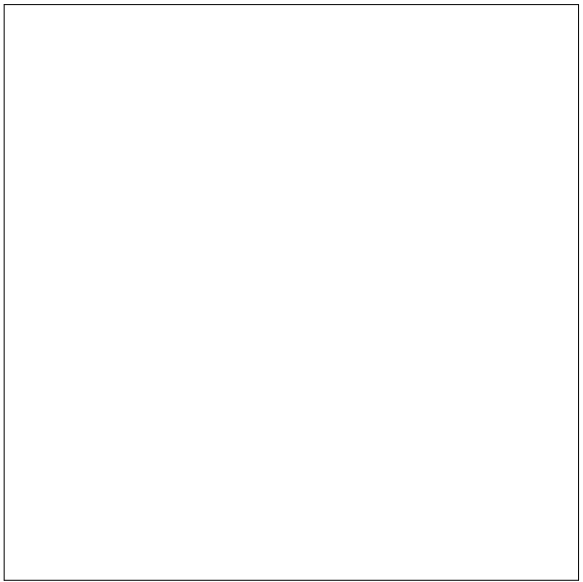
m.e.p. engineers



structural engineers



site/civil engineers



ISSUES		ISSUE DATE
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Preliminary		1/6/25
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	09/19/24
Preliminary	1/6/25

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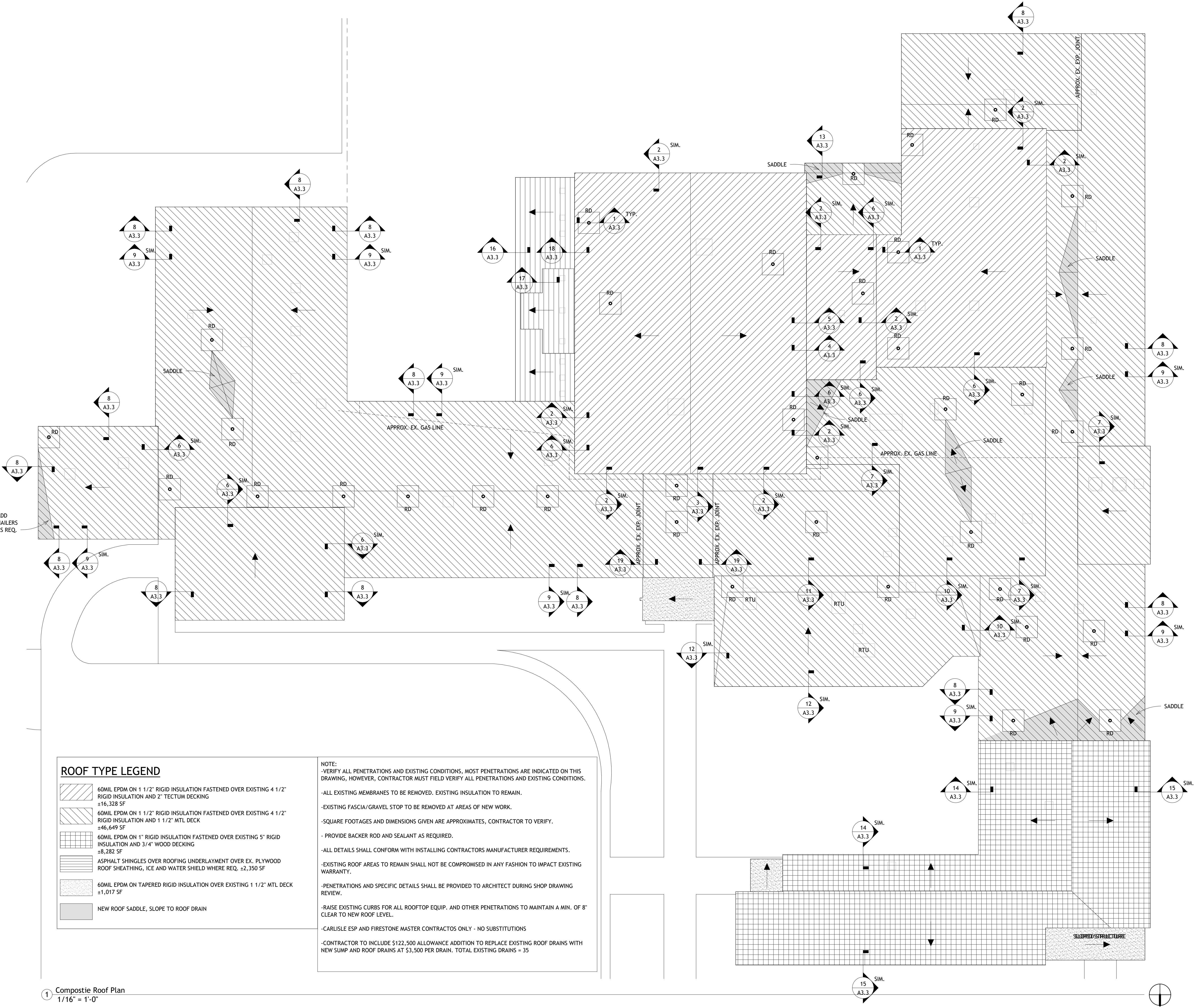
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Composite Roof
Plan

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A3.2

environmentarchitects

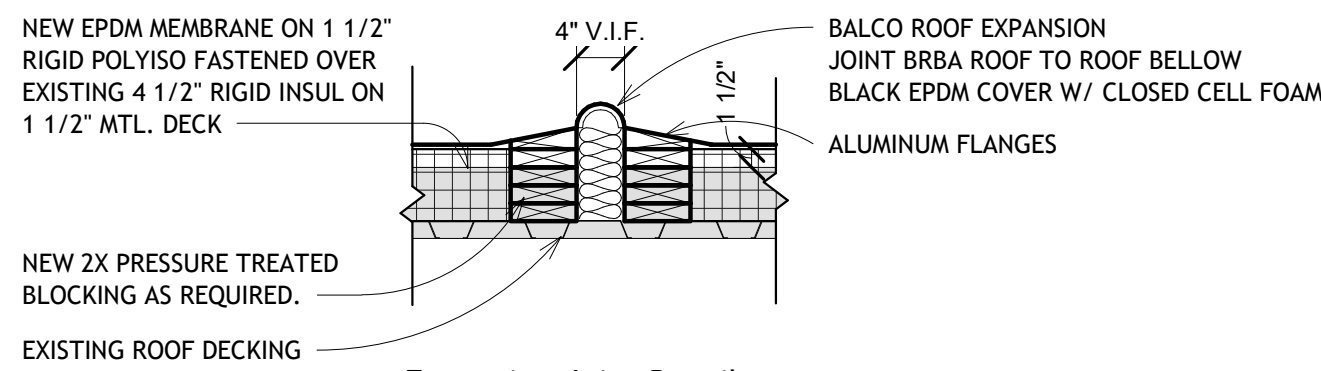


1 Composite Roof Plan
1/16" = 1'-0"

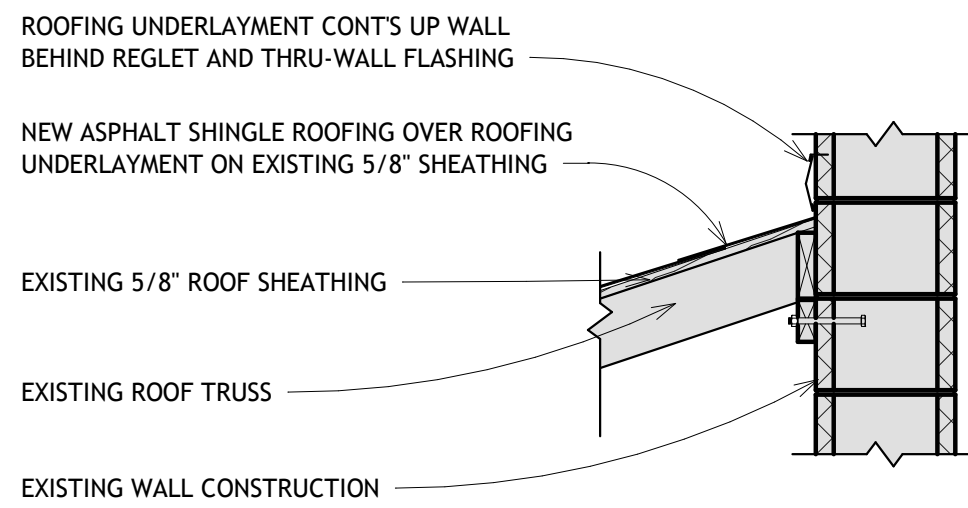
NOTE: AREAS SHOWN IN GRAY
REPRESENT EXISTING CONSTRUCTION.

	12/05/24
Preliminary	1/6/25

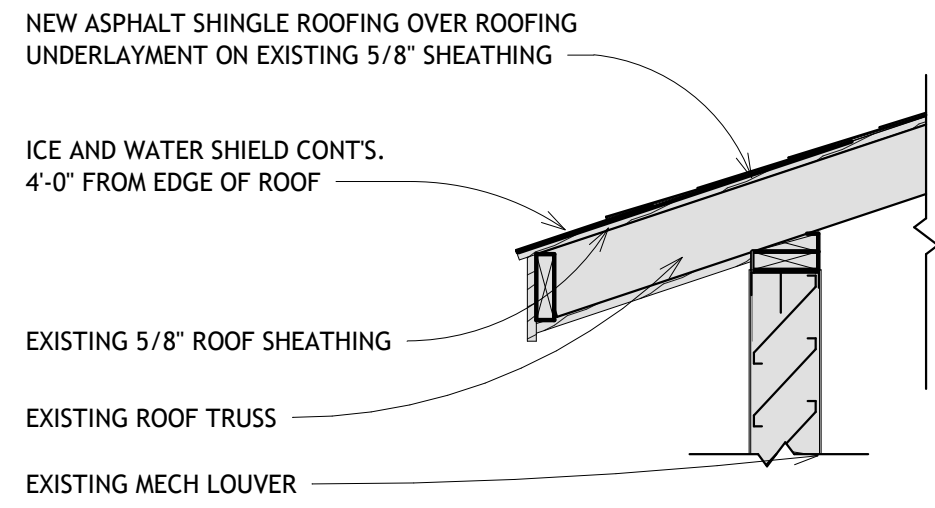
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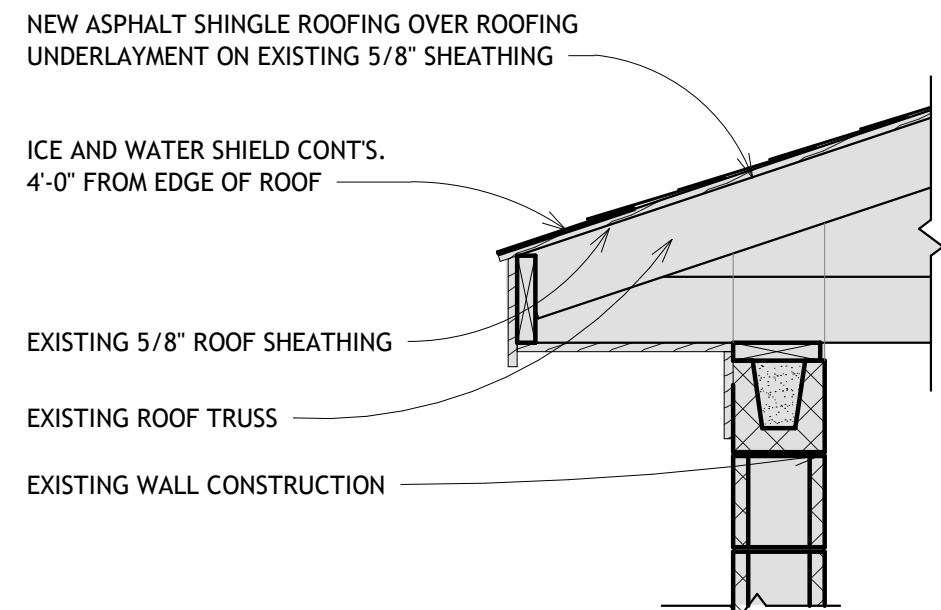
19 Expansion Joint Detail
3/4" = 1'-0"



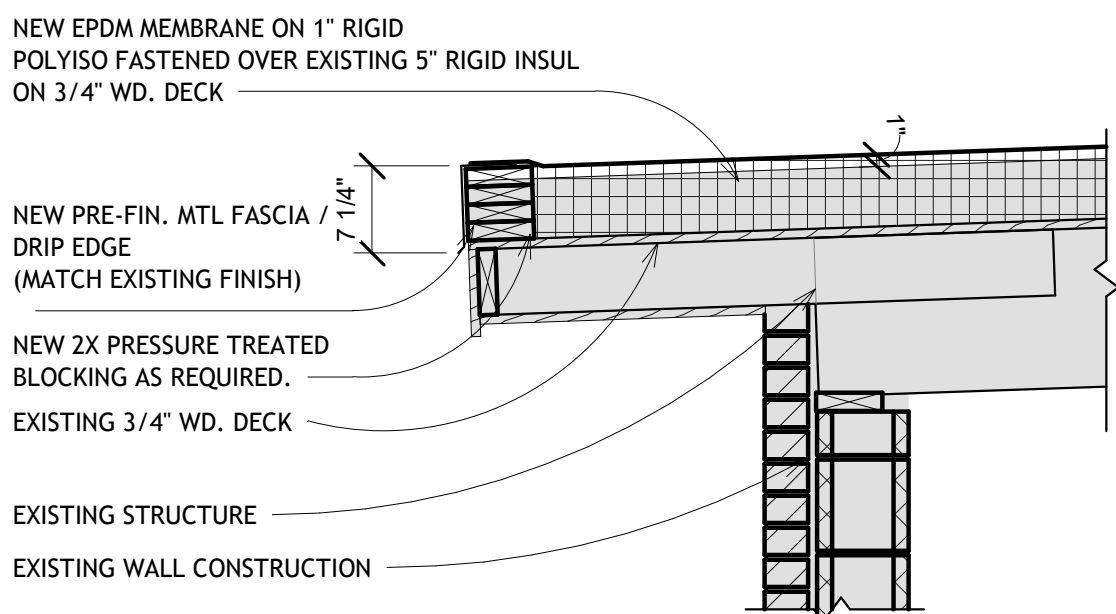
18 Shingle Roof Detail 3
3/4" = 1'-0"



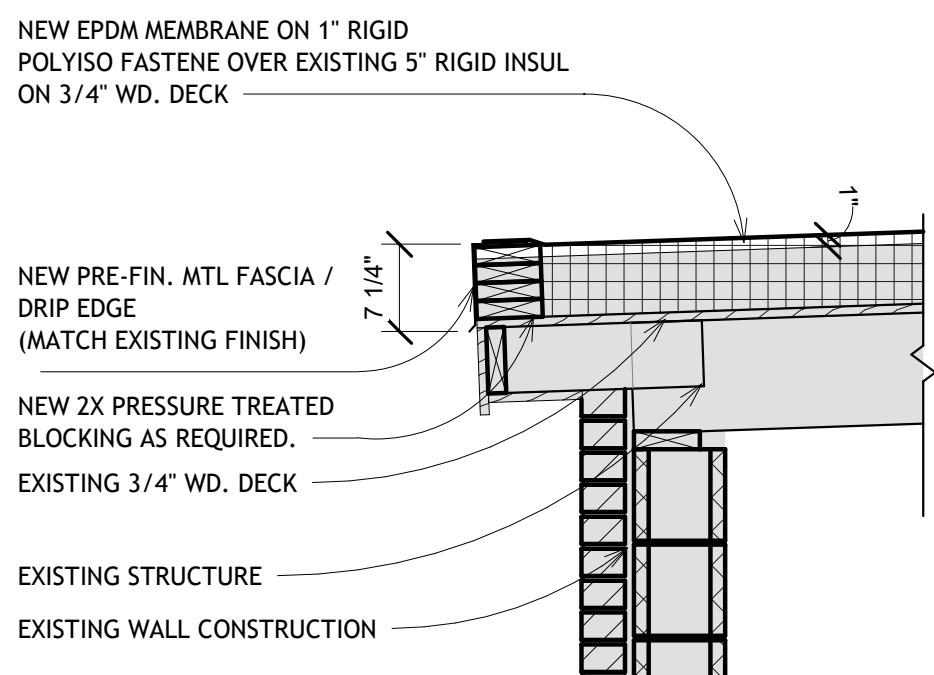
17 Shingle Roof Detail 2
3/4" = 1'-0"



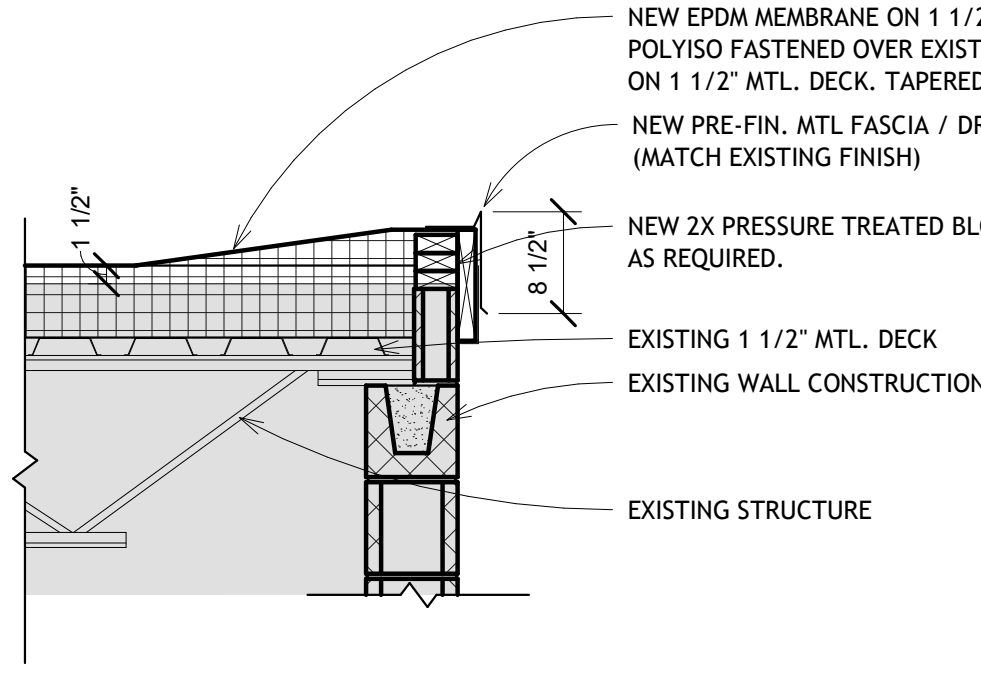
16 Shingle Roof Detail 1
3/4" = 1'-0"



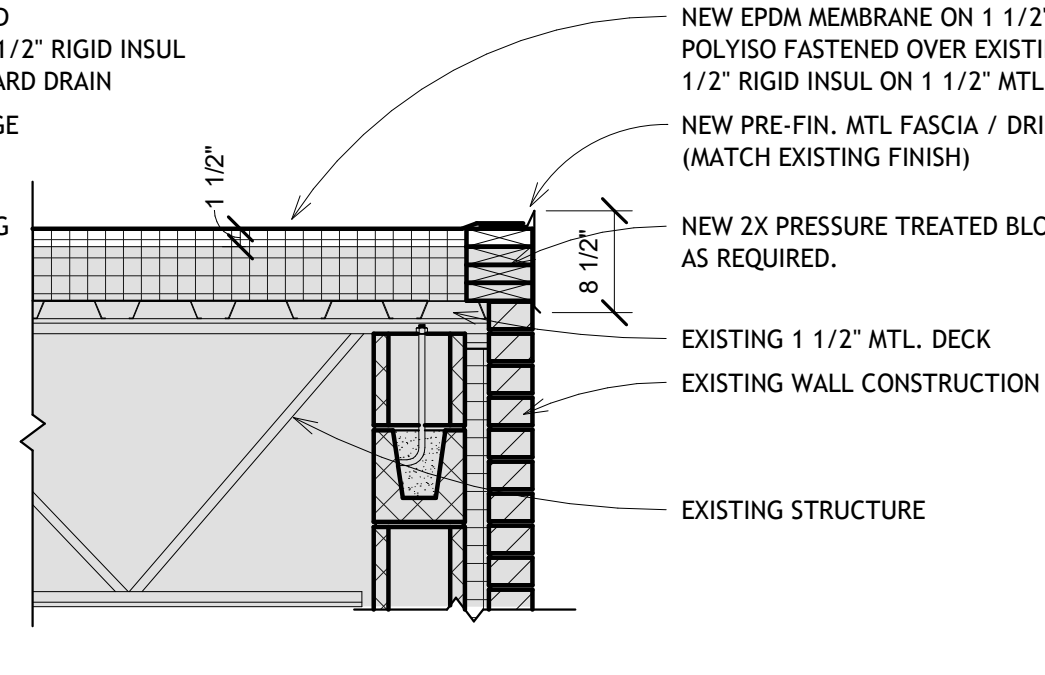
15 North Classroom Roof Detail 2
3/4" = 1'-0"



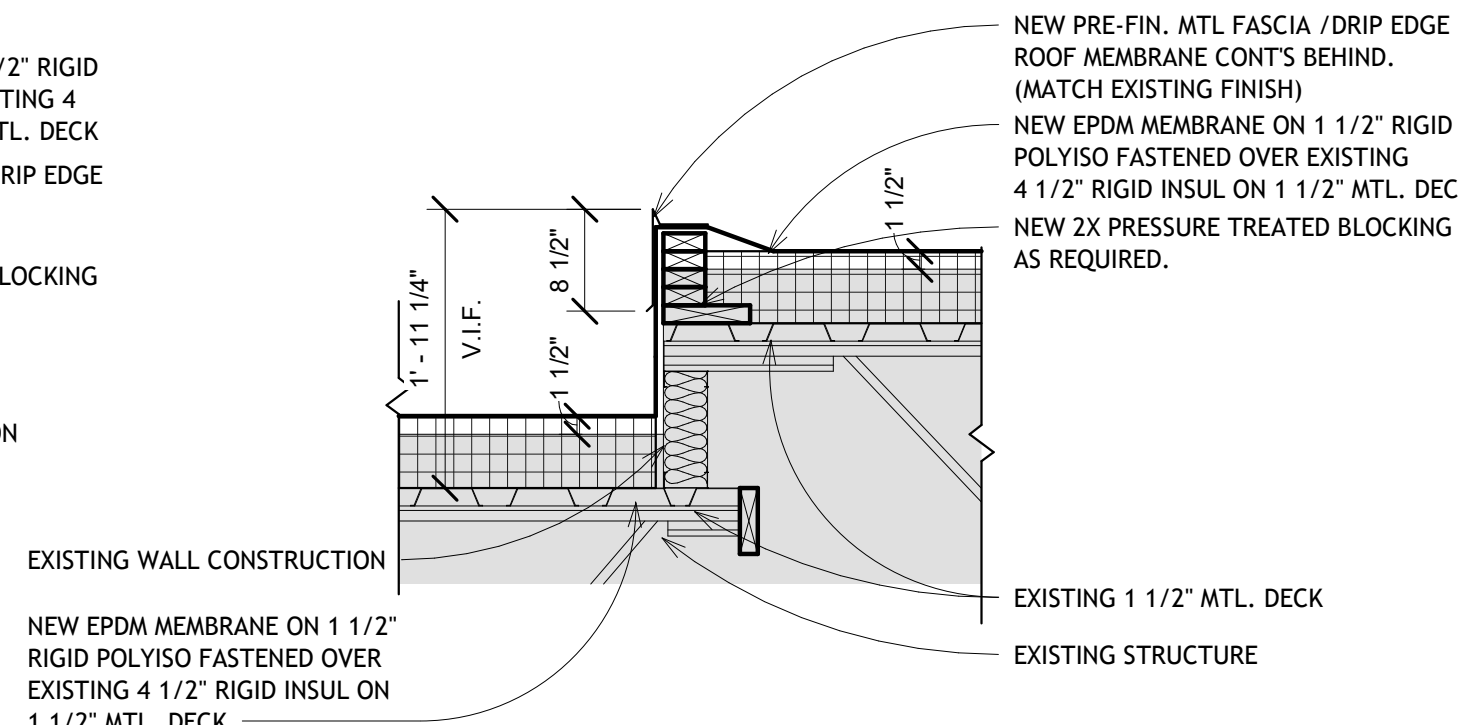
14 North Classroom Roof Detail 1
3/4" = 1'-0"



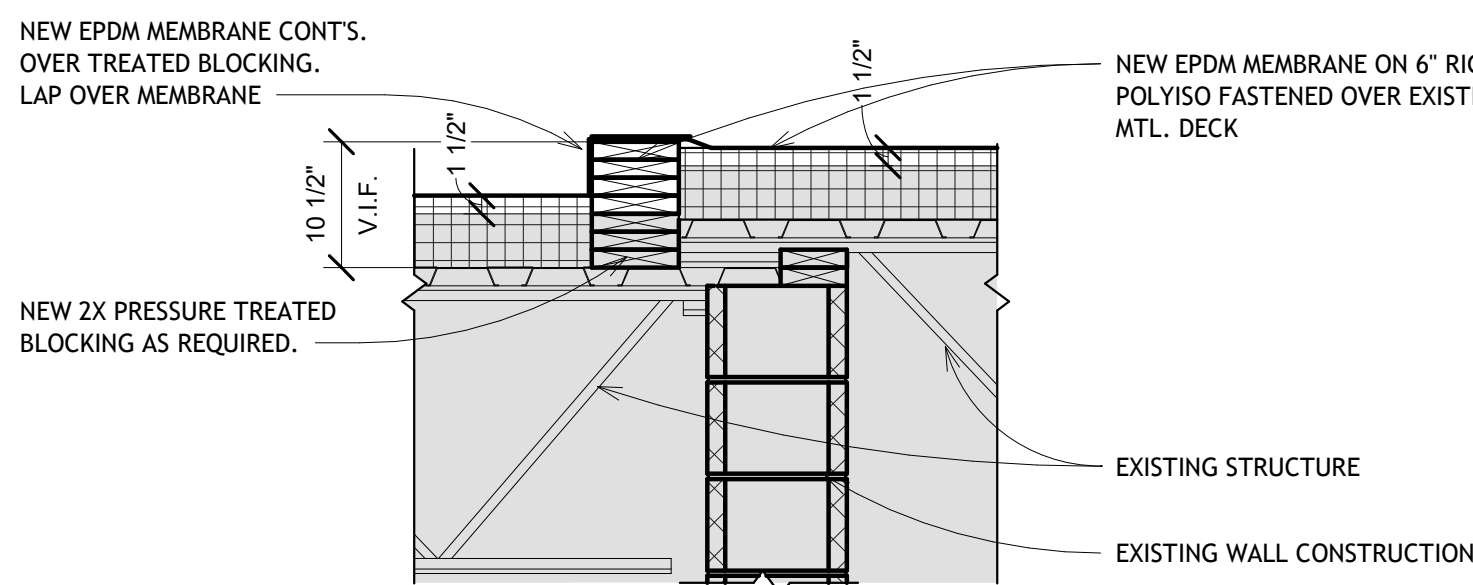
13 Weight Training Roof Detail 1
3/4" = 1'-0"



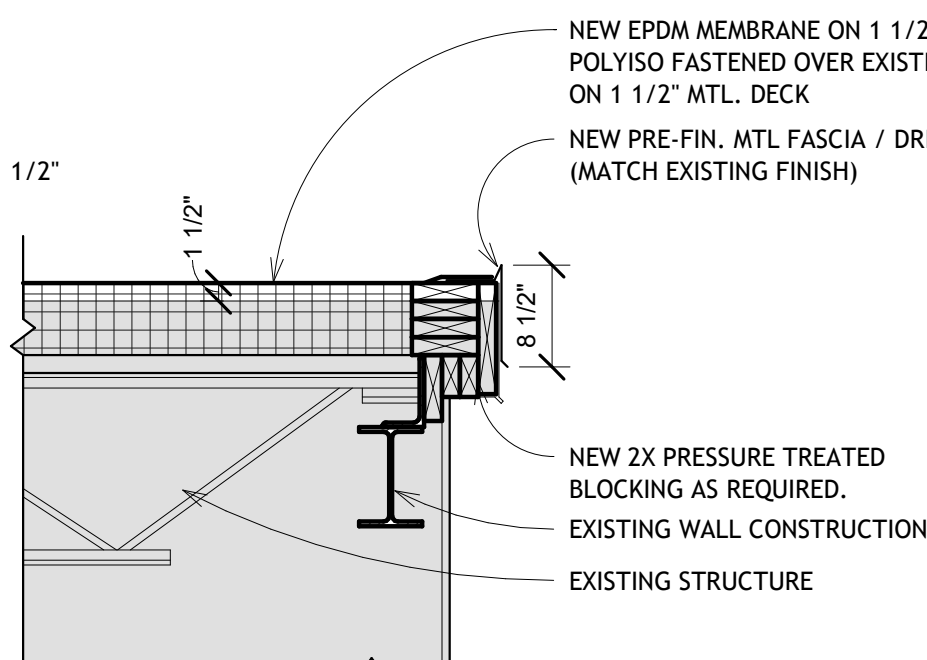
12 Office Roof Detail
3/4" = 1'-0"



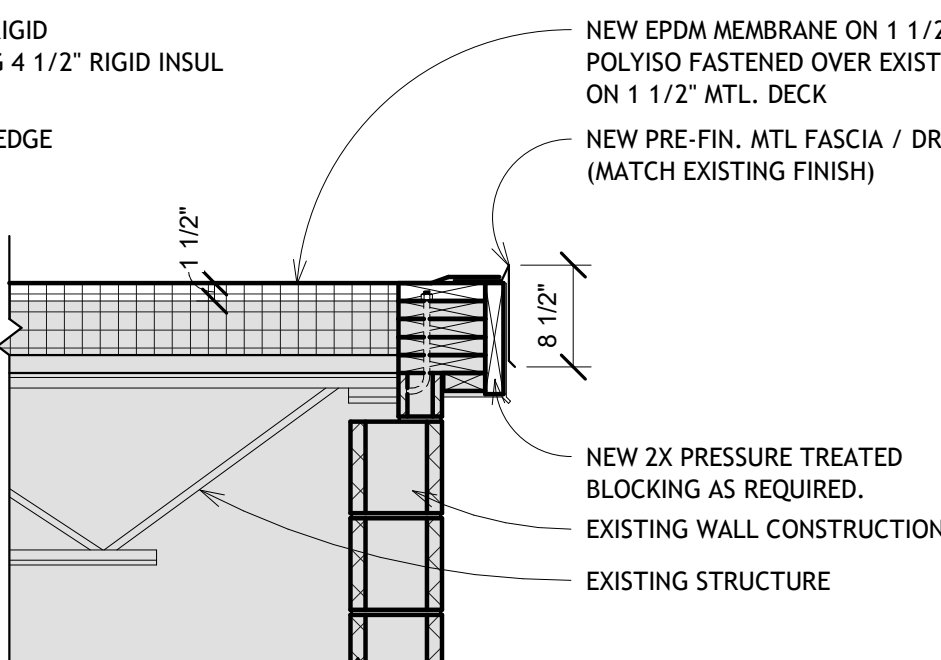
11 Office Roof Transition Detail 2
3/4" = 1'-0"



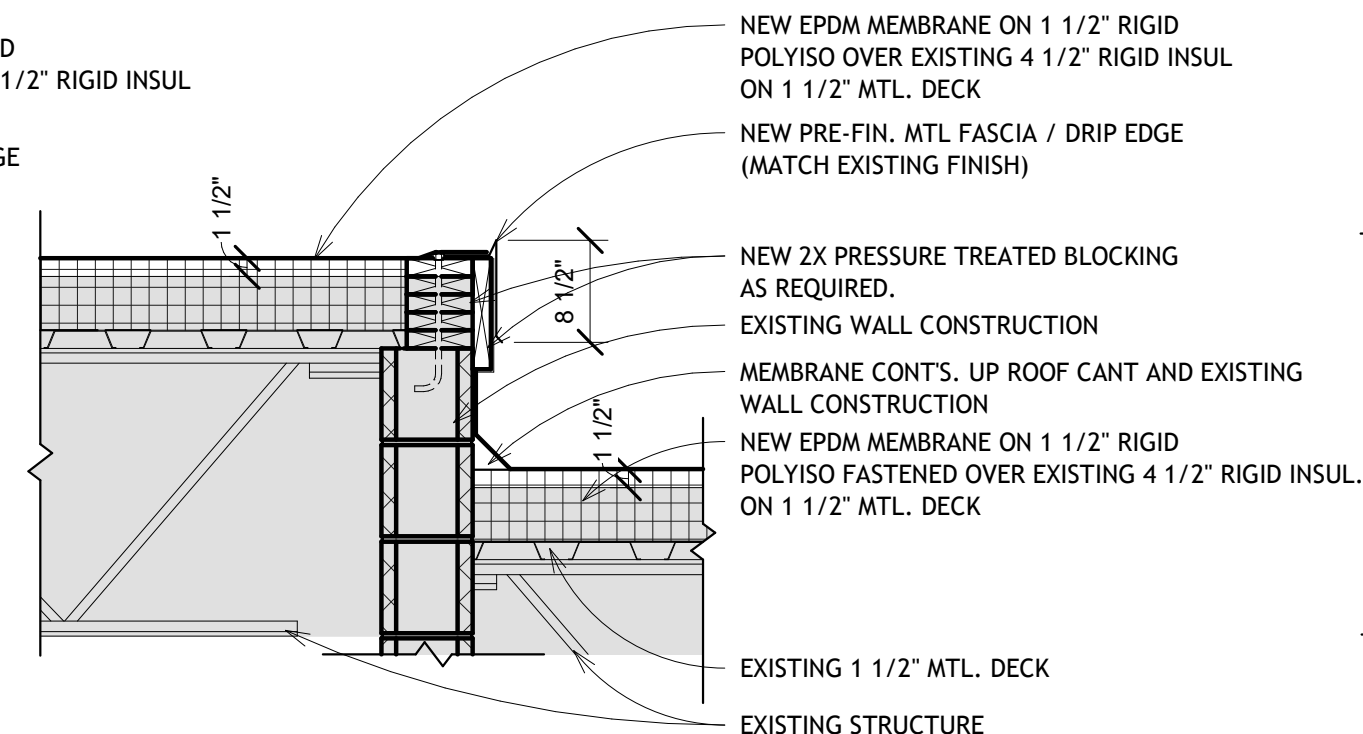
10 Office Roof Transition Detail 1
3/4" = 1'-0"



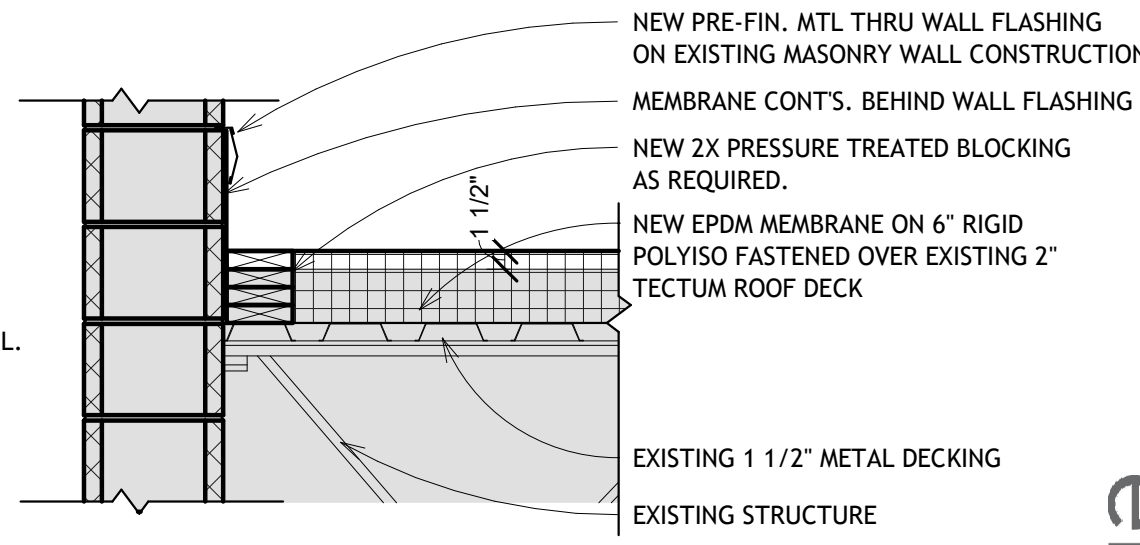
9 Classroom Roof Detail 2
3/4" = 1'-0"



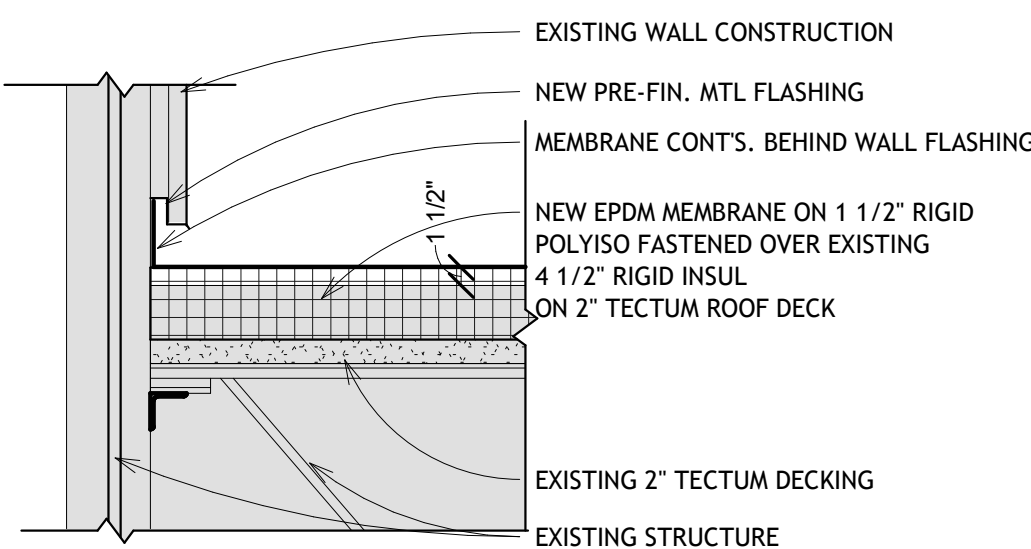
8 Classroom Roof Detal 1
3/4" = 1'-0"



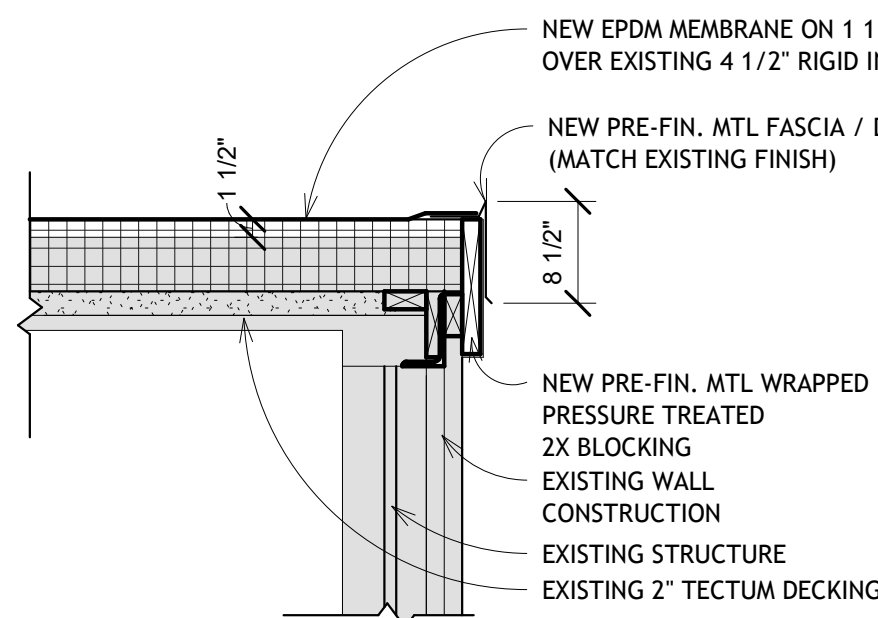
7 Roof Transition Detail 1
3/4" = 1'-0"



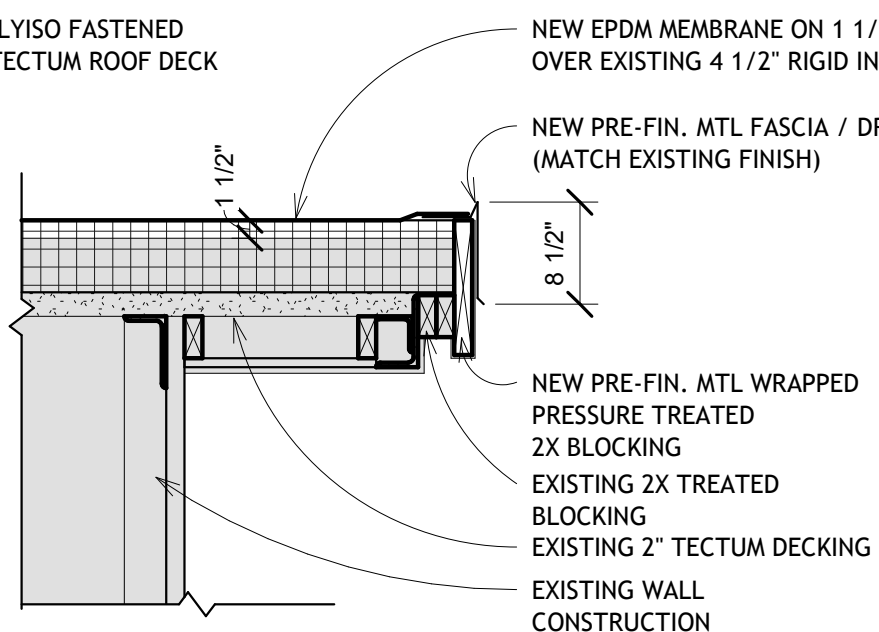
6 Gym Lower Roof Detail 2
3/4" = 1'-0"



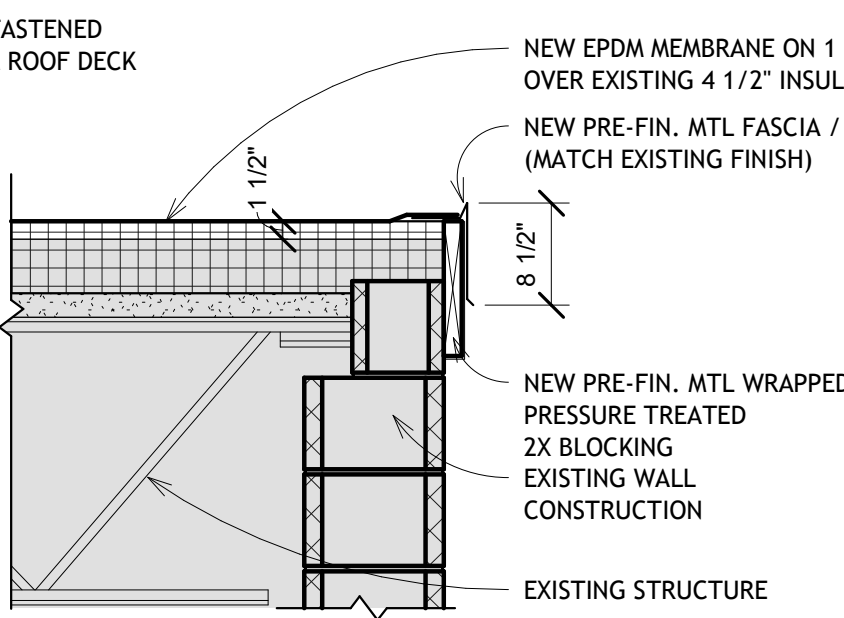
5 Gym Lower Roof Detail 1
3/4" = 1'-0"



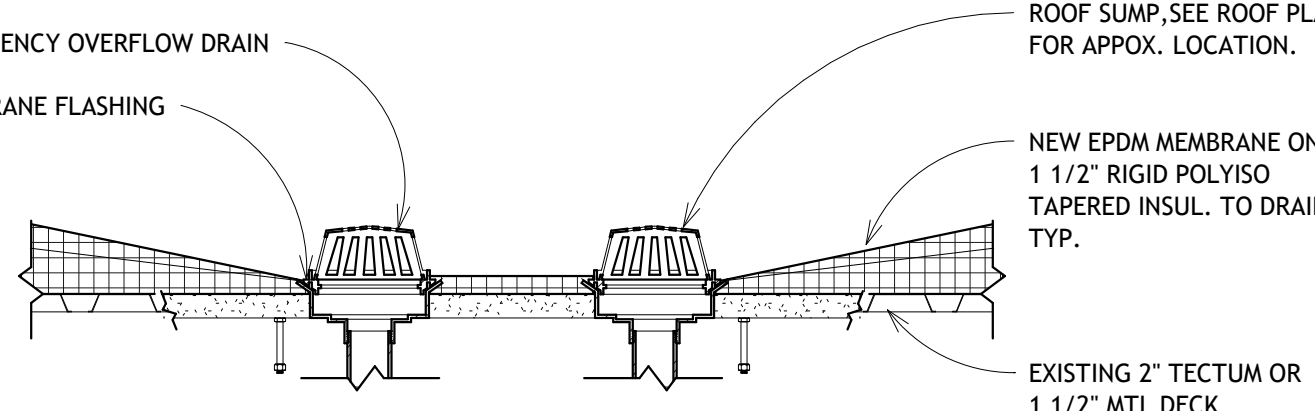
4 Gym Roof Detail 3
3/4" = 1'-0"



3 Gym Roof Detail 2
3/4" = 1'-0"



2 Gym Roof Detail 1
3/4" = 1'-0"



1 Typ. Roof Sump Retrofit
3/4" = 1'-0"

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A3.3