

VILLAGE OF GURNEE

VILLAGE HALL ROOF REPLACEMENT

Bid Opening: August 30, 2018
Time: 10:30 A.M.
Place: Village of Gurnee
325 N. O'Plaine Road
Gurnee, Illinois 60031
(847) 599-7550

PREPARED BY: VILLAGE OF GURNEE – ENGINEERING DIVISION

VILLAGE OF GURNEE
NOTICE TO BIDDERS

Municipality: VILLAGE OF GURNEE
Road District WARREN
County LAKE

TIME AND PLACE OF OPENING OF BIDS:

Sealed proposals for the improvement described below will be received at the office of the Village of Gurnee, Engineering Division, 325 N. O'Plaine Road, Gurnee, Illinois 60031, until 10:30 A.M., August 30th, 2018. Proposals will be opened and read publicly at that time.

DESCRIPTION OF WORK:
"Village Hall Roof Replacement"

LOCATION:

325 N. O'Plaine Road, Gurnee, Illinois 60031

PROPOSED IMPROVEMENT:

Improvements include the replacement of the Village Hall roof at the above location. The replacement consist of approximately 22,669 Square Feet of shingles and 225 Square Feet of gravel surfaced roof. Improvement is expected to begin near mid-September.

BIDDERS INSTRUCTIONS:

1. Plans and proposal forms will be available in the office of the Village of Gurnee, 325 N. O'Plaine Road, Gurnee, Illinois 60031 for free.
2. Proposals do not need to be accompanied by a proposal guarantee as provided in Check Sheet LRS 6 of the "Supplemental Specifications and Recurring Special Provisions," prepared by the Department of Transportation.
3. A wage of no less than the general prevailing hourly rate for work of a similar character in the locality in which the work is performed, shall be paid to all laborers, workers and mechanics employed as is according to the Illinois Prevailing Wage Act (/820 ILCS 130).
4. The awarding authority reserves the right to waive technicalities and to reject any or all proposals as provided in Check Sheet LRS 6 of the "Supplemental Specifications and Recurring Special Provisions," prepared by the Department of Transportation.

By Order Of The:
Village of Gurnee

(Awarding Authority)

Andy Harris

Village Clerk

INSTRUCTIONS TO BIDDERS

SCOPE OF WORK

The CONTRACTOR shall furnish and provide all labor, materials, tools, equipment, and machinery necessary to perform and complete, in a good and workmanlike manner, the work required for:

VILLAGE HALL ROOF REPLACEMENT

COORDINATION OF PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS

The Special Provisions are intended to describe a scope of work and are essential parts of the Contract. A requirement occurring in any of them is binding. In case of discrepancy, measured or calculated dimensions will govern over scaled dimensions; Special Provisions will govern over both Plans and Specifications. The CONTRACTOR shall take no advantage of any apparent error or omission and the village shall be permitted to make corrections and interpretations as may be necessary for the fulfillment of the improvements. The decision of the village in the case of any errors or omissions shall be final.

EXAMINATION OF SITE AND SPECIFICATIONS

Bidders shall make a careful examination of the site of the proposed work, Bid Documents, Specifications, and Contract Form before submitting a Proposal. They shall fully inform themselves as to the quality and quantity of materials required and the character of the work, and they shall further investigate the location and make a careful examination of the sources of supply for materials.

The attached documents are intended to provide a generalized scope of the work to be done and in no way shall be deemed to be complete, comprehensive, or limiting the area of the work to be performed.

The Village of Gurnee, as Owner, and its agents assumes no responsibility whatever in respect to the sufficiency or accuracy of this information and there is no guaranty, either expressed or implied, that the conditions or locations indicated are representative of those existing throughout the work or that unanticipated situations may not occur.

The Owner reserves the right to add, delete, or modify as it deems fit, the locations and amounts of work to be done. If their bid is accepted, they will be responsible for all errors in their Proposal resulting from their failure or neglect to comply with these instructions. The Owner will in no case be responsible for any change in anticipated profits resulting from such failure or neglect.

DELIVERY OF PROPOSALS

Proposals shall be delivered in person to the place and by the time specified in the Notice to Bidders. Bids delivered after the time stated will not be accepted nor opened. Submit each Proposal in a sealed envelope including the bidders' company name and plainly marked:

VILLAGE HALL ROOF REPLACEMENT

FAIR EMPLOYMENT PRACTICES

In accordance with "An Act to Prohibit Discrimination and Intimidation on Account of Race or Color in Employment under Contracts for Public Buildings or Public Works", approved July 8, 1933, as amended, no person shall be refused or denied employment in any capacity on the grounds of race or color, nor be discriminated against in any manner by reason thereof in connection with the performance of this Contract, nor shall any unfair employment practice as defined in the "Fair Employment Practices Act", approved July 21, 1961, as amended, be committed by the CONTRACTOR, his subcontractors, suppliers of materials or services to the CONTRACTOR or his subcontractors, or any labor organizations furnishing skilled or unskilled labor to the CONTRACTOR or his subcontractors.

MUNICIPAL REFERENCES, EQUIPMENT, SUPERINTENDENT, SUBCONTRACTOR, SUPPLIER RESUMES REQUIRED

Prior to award, the apparent low bidder shall furnish to the Owner the following information:

1. Three (3) municipal references of completed contract work of a similar nature, including the name of the municipality, the dollar value of the work, and names and telephone numbers of the municipal officials in responsible charge of the completed contracts.
2. A complete List of the Bidder's Labor Force to be employed on this Contract, including their construction specialties.
3. The Name of the Full Time Superintendent assigned to this contract to represent the CONTRACTOR.
4. A List of All Subcontractors proposed to be employed for this contract.
5. A complete List of the Equipment owned or currently leased by the bidder to be used in construction of this improvement.
6. A List of all Material Suppliers with addresses, telephone numbers, and contact names.

Failure to submit any of the above items may result in disqualification of the bid as incomplete.

SELECTION OF BIDDER

The Owner reserves the right to govern selection of a bidder in accordance with the work to be done; equipment and qualified labor and superintendence to be furnished; experience; resources; and the lowest priced responsible and complete bid. The Owner reserves the right to waive any or all technicalities, to reject any or all bids, and to make an award in the best interest of the Village.

CONTRACT BOND REQUIRED

The successful bidder, prior to the execution of the Contract by the Owner, shall furnish to the Owner a surety bond in the sum equal to the full amount of the Bid, in the form of a Contract Bond. All proposals shall be submitted on the basis of furnishing this bond executed by a corporate surety company licensed to do business in the State of Illinois. The costs of executing the Contract, furnishing the Contract Bond and Proof of Insurance, and other documents required, including all Notarial fees and expenses, are to be paid by the Bidder to whom the award is made. The cost of same shall be included in the total amount bid, with no extra compensation paid by the Owner.

GENERAL CONDITIONS OF THE CONTRACT

GENERAL CONDITIONS, QUALIFICATIONS, STANDARDS, & PROCEDURES

The general terms and conditions which follow apply to all purchases and become a definite part of each formal invitation for bid, purchase order, or contract issued by the village of Gurnee (“village”), unless otherwise specified. By submitting a bid, the bidder (“bidder, vendor, or contractor”) agrees to be bound by these terms and conditions. Bidders or their authorized representatives are expected to fully inform themselves of the conditions, requirements, and specifications before submitting bids, failure to do so will be at the bidder's own risk and the bidder cannot secure relief on the plea of errors.

General Conditions

CHANGES TO SCOPE OF WORK

If the Village deems it proper or necessary during the execution of the work to make any alteration which will increase or diminish the quantity of labor or material or the expense of the work, even to the elimination of one or more items, such alteration shall not annul the Contract hereby entered into.

The elimination of any part of the work shall not increase the unit price for any of the remaining work bid on. The value of the work so added shall be based on the rates and prices named in the Contract as bid, when such rates and prices cover the class of work added, otherwise the value shall be determined by mutual written agreement between the Village and the Contractor before any such work shall be commenced.

EXTRA WORK

No claim of any kind will be allowed from the Contractor for changes, extra work or material not contemplated or necessary for the completion of the work described, or for a greater amount of money than is hereby stipulated to be paid, unless the change in or addition to the work requiring additional outlay by the Contractor is first ordered in writing by the Village and the price herein stipulated to the Contractor.

QUALITY CONTROL OF WORK

The Village shall have power to inspect all work for compliance with the Specifications, and the Contractor shall perform all of the work herein specified to the Village's entire satisfaction, approval, and acceptance.

The Contractor is responsible for furnishing all labor, materials, and equipment to construct and complete the work in compliance with the Plans, Specifications, and Special Provisions unless otherwise specified. It is the Contractor's responsibility to complete the work and deliver a final product which meets all the requirements of the Specifications.

The Village shall decide all questions relative to measurements, the materials used, the character of the work performed, and as to whether the rate of progress is such as to comply with these Specifications.

If any authorized agent of the Village shall discover and notify the Contractor of any neglect or disregard of the Specifications, such defects shall at once be remedied and further defective work discontinued. Yet, the right of final acceptance or condemnation of the work will not be waived by reason thereof, nor by any act of the Village, its officers, or agents.

INSPECTION

The Village shall at all times have access for inspection to all branches of the work, on the site of the work, or where materials are stored or to be furnished from, and the Contractor shall furnish from time to time such samples of each separate component forming the materials to be used in the improvement as may be required by the Village.

If at any time during the progress of the work, any material is rejected or if any of the work is entirely or in part improperly constructed, then the Contractor, at his / her own expense, shall immediately remove all rejected material and shall reconstruct all work improperly done. In the case the Contractor shall neglect or refuse, after seventy-two (72) hours written notice, to remove or replace said rejected work or material, the work shall be removed by the Owner and the Owner's cost of labor, material, and supervision thereof deducted from any money due the Contractor.

OBSTRUCTION OF DRIVWAYS AND PARKING

The CONTRACTOR shall arrange to keep public ways open for traffic at their own expense. Convenient access to driveways, houses, and buildings along the improvement must be maintained by the CONTRACTOR. The CONTRACTOR shall remove all surplus materials and debris from the work area on a daily basis as the work progresses so that there is a minimum amount of disruption to public property as possible.

FORFEITURE

The work herein specified shall be prosecuted with such forces as the Village may deem adequate for its completion within the time specified for completion. If the rate at which the work is performed is, in the judgment of the Village, not such as to insure its progress and completion in the time and manner herein specified, or if, at any time, the Contractor refuses or neglects to prosecute the work with forces sufficient for its completion within the specified time, or if in any event, the Contractor fails to proceed with the work in accordance with the requirements and conditions of the Specifications, the Owner shall have full right and authority after giving seven (7) days written notice to the Contractor of its intention to do so, to take the work out of the hands of the Contractor and/or to re-let the same to other contractors. In so doing, the Owner may use or authorize the use of such materials and supplies as may be the property of the Contractor, or on the ground, without rental or other charge for the use thereof, except that all such materials so used in completing the work shall be credited to said Contractor at their fair reasonable market price, as of the date same were delivered on the work, but in no case will the Contractor be credited with more than the cost of said materials delivered to the Contractor. The cost of fully completing all the work and all expense of every kind incurred by the Owner in connection herewith shall be charged to the Contractor and shall be deducted and paid by the Owner out of such moneys as may be due, or may at any time thereafter become due, or may at any time thereafter become due to said Contractor under this Contract, or any part thereof, so far as the same shall suffice therefore, and any deficiency shall be paid to the Owner by the Contractor forthwith, and the bondsmen will be held liable for any such deficiency. Should it become necessary for the Owner to declare the work forfeited, such forfeiture shall in no case relieve the Contractor or his / her bondsmen of any of the conditions of the Contract. In case the Contractor shall abandon or in any manner fail to complete the work, the Owner shall have the full right and authority to pay to any person, firm, or entity who may have been employed by the Contractor upon the work, out of any fund due or unpaid the Contractor at the time the Owner shall declare said Contractor in default, any and all sums of money which may be found to be due and owing to said Contractor under this Contract and upon giving five (5) days written notice by mail to said Contractor of the intention so to do. The Owner shall have the full right and authority to ascertain the amount or amounts so due and owed by the Contractor to such person, firm, or entity and in such manner and upon such proof as it may deem sufficient, and the amount or amounts so found by it to be due and owing to such person, firm, or entity, shall be conclusive as against said Contractor, and may thereafter make payment to the said person, firm or entity.

SUSPENSION OF WORK

Should the Contractor, with the approval of the Village, stop work, or should the weather conditions, in the opinion of the Village, are such that the work could not be properly and safely be performed, then the Village may suspend the work until such time as weather conditions shall permit proper construction. In case of stoppage of work, the Contractor shall, at his / her own expense, store and be responsible for material and protection of the work and be responsible for all accidents as though the work was in progress. Should the work be delayed or suspended with the approval of the Village, the time of delay or suspension may be added to the time set for completion of the work.

WAIVERS OF LIEN REQUIRED

It is expressly understood that the Village reserves the right to direct that no payment be made to the Contractor should he have reason to believe that said Contractor has failed for any reason to make just payment to any employee, subcontractor, or material supplier used or employed by the Contractor in the prosecution of the work, until the Village is satisfied that full and proper payment has been made. The Contractor shall secure and file with the Owner the progress and final waivers of lien for all materials incorporated into and labor and equipment employed on the work before payment requests are processed.

PARTIAL AND FINAL ACCEPTANCE OF THE WORK

Work on this Contract is not subject to partial inspection and acceptance. The entire work shall be made in a neat and workmanlike manner and all requirements shall be complied with. The mere fact that some particular part or portion of the work may have been previously inspected, cleaned, and set in order will not excuse the Contractor from again cleaning any and all portions so that the entire system of work shall be in proper condition and subject to final inspection by the Village and complying with the use intended at the time of acceptance by the Owner. The date of final acceptance of work on this Contract is the date that the Contractor is issued final payment by the Owner.

APPLICABLE REGULATIONS AND STANDARDS

All the latest and most recent standards, regulations, work rules, product specifications, and workmanship practices will apply to this project unless otherwise approved by the Village.

EVALUATION CRITERIA

The Village will select a contractor on the basis of the responsiveness of the proposal to the Request for Proposal requirements and willingness to negotiate and execute an acceptable written agreement.

The Village reserves the right to reject any, some or all proposals and to request written clarification of proposals and supporting materials.

Responses may be rejected if the contractor fails to perform any of the following:

1. to adhere to one or more of the provisions established in this RFP;
2. to submit a response and complete all required forms;
3. to demonstrate technical competence;
4. to submit a response on or before the deadline
5. to fulfill a request for an oral presentation.

Discussions may be conducted with responsible entities that have submitted proposals in order to clarify certain elements. Proposals shall be afforded fair and equal treatment with respect to any opportunity for discussion and revision. Any such revisions may be permitted after submissions and prior to award for the purpose of obtaining best and final offers at the discretion of the Village. In conducting discussions, there shall be no disclosure of information derived from proposals submitted by competing proposers. The selection shall be done by a review team and will be recommended to the Village Administrator for final approval.

The Contractor to be recommended for approval will be the one whose proposal is determined to be the most advantageous to the Village, in consideration of price and the evaluation factors set forth in this Request for Proposal.

The Village of Gurnee reserves the right to negotiate with more than one potential awardees after the submission of all proposals.

The Village of Gurnee may award a contract based on initial proposals received without discussing such proposals among the contractors.

The Village of Gurnee reserves the right not to fund any of the respondents to this RFP.

The Village is not required to furnish a statement of the reason(s) why a proposal was not deemed to be the most advantageous.

The Village of Gurnee in accordance with the laws of the State of Illinois, hereby notifies all respondents that it will affirmatively insure that the agreement entered into pursuant to this notice will be awarded to the successful firm without discrimination on the grounds of race, color or national origin.

CONTRACTOR QUALIFICATIONS

The Contractor must possess the equipment and all required licenses and authorizations necessary to complete the type of work required.

The Contractor is responsible for compliance with all regulations and standards set forth in the general conditions and special provisions of this document.

PRE-PROPOSAL INSPECTION

All interested contractors are encouraged to visit the site of the proposed work, to familiarize themselves with the project, and to pose questions or request additional information.

During this inspection a walkthrough of the site will be allowed to assist in determining the scope of work, measurements, material quantities, sizes, and site conditions that will affect work, which is the sole responsibility of the Contractor. Contractor should acquaint themselves with job conditions by site review. Failure to do so will not relieve the Contractor of the obligation to furnish all services necessary to carry out the provisions of the Contract.

The Village assumes no responsibility for any misunderstanding or representations concerning conditions made by its officers or employees prior to the execution of this contract, unless such understanding or representations made are given in writing. No additional allowance will be granted because of lack of knowledge of such conditions. To schedule an inspection of the site, please call the engineering division at **(847) - 599 -7550**.

Contractor Requirements

CONTRACTOR'S EMPLOYEES

The Contractor shall employ skilled foremen and laborers and shall, if directed by the Village, discharge from the site of the work any incompetent, abusive, or disorderly employees. None but person's expert in their respective branches of work shall be employed by the Contractor.

EXISTING FACILITIES

The Contractor shall clean and maintain all work areas adjoining the project site free from all construction debris at all times. The Contractor is also responsible for the immediate removal of debris from adjacent work areas caused by construction foot traffic entering and leaving the project area.

SALVAGED MATERIAL

All material of any kind encountered on the site is the property of the Owner. When approved for removal from the site of the work, said material shall become the property of the Contractor and shall be disposed of, in a timely fashion, as specified.

PERMITS

The Village of Gurnee shall be responsible for obtaining all permits.

ORDINANCES

The Contractor shall observe all laws and ordinances controlling or limiting those engaged in public work, which ordinances and laws are made a part of these Specifications. The Contractor shall provide and maintain such sanitary accommodations for the use of his / her employees as may be necessary to comply with the State and Local Board of Health requirements. Public nuisances will not be tolerated.

DAMAGE

All loss or damage arising out of the nature of the work to be done, or from any delay or unforeseen or unusual obstructions, or from difficulties which may be encountered in the prosecution of the work or arising from the action of the elements, shall be sustained at the Contractor's expense.

The Contractor is responsible for having any and all public and private utilities located in proximity to the project site. The Contractor shall protect all public and private utilities and shall notify the owners of all utilities at least 48 hours prior to commencing work. The Contractor shall contact JULIE (1-800-892-0123) and obtain the horizontal and vertical field locations for their utilities within the limits of the proposed improvement.

The Contractor shall be held responsible for all damage to any utilities, sidewalks, pavements, structures, etc.

The Contractor shall, without extra charge, erect, maintain, and remove strong and suitable barriers to protect the site and public.

The Contractor shall protect the adjoining building from damage and injury in the progress of the work, at the Contractor's expense.

The Contractor shall protect all private and corporate property, such as gas mains, telephone lines, telephone or telegraph poles or conduits, etc. interfering with the work, notifying the several owners of the work to be done, and arranging for the future disposition of their property. The Contractor agrees to hold the Village harmless from any such claims or demands of any

kind, arising from their performing the work on this Contract.

MINIMUM WAGE PROVISIONS

The successful bidder will be required to pay not less than the prevailing rates of wages in this locality to workmen engaged in the work, in accordance with "The Prevailing Wage Act", Illinois Revised Statutes, as amended. All contractors and subcontractors shall submit certified payroll records to the Village of Gurnee. Contractors must submit these records once a month. The payroll records must include all workers employed by contractors who have worked on construction projects undertaken on behalf of the Village.

FAIR EMPLOYMENT PRACTICES

In accordance with "An Act to Prohibit Discrimination and Intimidation on Account of Race or Color in Employment under Contracts for Public Buildings or Public Works", approved July 8, 1933, as amended, no person shall be refused or denied employment in any capacity on the grounds of race or color, nor be discriminated against in any manner by reason thereof in connection with the performance of this Contract, nor shall any unfair employment practice as defined in the "Fair Employment Practices Act", approved July 21, 1961, as amended, be committed by the Contractor, his / her subcontractors, suppliers of materials or services to the Contractor or his / her subcontractors, or any labor organizations furnishing skilled or unskilled labor to the Contractor or his / her subcontractors.

RESPONSE REQUIREMENTS

The Village of Gurnee will accept written proposals for this work until 10:30AM on July 10, 2018. Proposals shall be delivered to the office of the Village Engineer at 325 N. O'Plaine Road, Gurnee, IL.

All costs incurred in the preparation and submission of the Request for Proposal shall be borne by the Contractor.

The Village of Gurnee is not obligated to return any responses or materials submitted by a contractor as a result of the Request for Proposal.

PAYMENT FOR COMPLETED WORK

A lump sum will be paid to the contractor upon completion of the project, should the project be completed on time and to the Village Engineer's satisfaction. In order to receive the lump sum payment, all guidelines, regulations, provisions, etc. as are outlined in this document must be followed.

INSURANCE

The Contractor shall not commence work under this Contract until he has obtained all insurance required under this paragraph and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on this Contract until all similar insurance required of the subcontractor has been so obtained and approved.

A. Compensation Insurance

The Contractor shall take out and maintain, during the life of this Contract, Workmen's Compensation Insurance for all his / her employees employed at the site of the project. In case any work is sublet, the Contractor shall require all subcontractors similarly to provide Workmen's Compensation Insurance for all the latter's employees unless such employees are covered by the protection afforded by the Contractor. In case any class of employees engaged in hazardous work under this Contract at the site of the project are not protected under the Workmen's Compensation Statute, the Contractor shall provide and shall cause each subcontractor to provide Workmen's Compensation Insurance for the protection of his / her employees not otherwise protected.

B. Public Liability & Property Damage Insurance

The Contractor shall take out and maintain and cause to be taken out and maintained by all subcontractors during the life of this Contract such Public Liability and Property Damage Insurance as shall protect him and all subcontractors performing work covered by this Contract from claims for damages for personal injury, including accidental death, as well as from claims for property damages, which may arise from operations under this Contract, whether such operations be by himself or by a subcontractor or by anyone directly or indirectly employed by either of them and the amounts of such insurance shall be as follows:

General Liability/Property Damage/Bodily Injury \$2 million combined single limit

Automobile Bodily Injury Liability/Property Damage \$2 million combined single limit

Such insurance shall name the Owner and the Village as insured along with the Contractor and shall hold harmless the Owner and the Village against all suits and claims arising from or as the result of the actions of the Contractor or his / her subcontractors.

Such policies shall not be cancelled, permitted to expire, or to be changed without the written consent of the Village.

PROOF OF INSURANCE

The Contractor shall furnish the Village with sufficient documentary evidence of insurance coverage, which evidence shall consist of either such original insurance policy or a certified state-statement from the insurer listing the details of the policy.

The Village of Gurnee and its officers, employees, and agents shall be named as additional insured on all insurance policies, with the exception of workers compensation.

SUBCONTRACTORS

The Contractor must identify the name of and information (background and experience) of any subcontractors to be involved in this project.

All subcontract agreements shall contain the required Federal and State Equal Employment Opportunity provisions and Labor Compliance provisions, including contract minimum wage requirements.

All work permitted to be subcontracted is conditional upon the timeliness and satisfactory performance of the Subcontractor and coordination of the Contractor. The Village may order the Contractor to remove a Subcontractor who is not performing satisfactory work or who is not performing work in a timely manner.

INDEMNITY

To the fullest extent permitted by law, the Contractor hereby agrees to defend, indemnify, and hold harmless the Village, its officials, agents, and employees against all injuries, deaths, loss, damages, claims, patent claims, suits, liabilities, judgments, cost and expenses, which may in any way accrue against the Village, its officials, agents, employees, and volunteers arising in whole or in part or in consequence of the performance of this work by the Contractor, its employees, or subcontractors, or which may in any way result therefore, except that arising out of the sole legal cause of the Village, its officials, agents, or employees, the Contractor shall, at its own expense appear, defend, and pay all charges of attorneys and all costs and other expenses arising therefore or incurred in connection therewith, and, if any judgment shall be rendered against the municipality, its officials, agents, and employees, in any such action, the Contractor shall, at its own expense, satisfy, and discharge the same.

Contractor expressly understands and agrees that any performance bond or insurance protection required by the contract, or otherwise provided by contractor, shall in no way limit the responsibility to indemnify, keep and save harmless, and defend the Village as herein provided.

FORCE MAJEURE

Neither the Village nor the Vendor shall be liable in any way to the contractor as a result of an event, circumstance, or act of a third party that is beyond a party's reasonable control (e.g. an act of God, an act of the public enemy, an act of a government entity, strikes, or other labor disturbances, hurricanes, earthquakes, fires, floods, epidemics, embargoes, war, and riots).

SAFETY

Safety requirements: Contractor shall do whatever work is necessary for safety and be solely and completely responsible for conditions of the job site, including safety of all persons (including employees) and property during the project period. This requirement shall apply continuously and not be limited to normal working hours.

Safety provisions shall conform to Federal and State Departments of Labor, Occupational Safety and Health Act (OSHA), and other applicable Federal, State, County, and Local Laws, Ordinances, Codes, requirements set forth herein, and regulations that may be specified in other parts of these specifications. Where these are in conflict, the more stringent requirement shall be followed. Contractor shall become thoroughly familiar with governing safety provisions and shall comply with the obligations set forth therein.

Special Provisions

These special provisions included herein apply to and govern the proposed roof replacement of the structure at 325 N. O'Plaine Road. In case of conflict with any part or parts of said specifications; said special provisions shall take precedent and shall govern.

ROOFING CONTRACTOR

The CONTRACTOR shall furnish all labor, material, and equipment necessary to properly complete the installation of the roofs including, but not limited to, layout, preparation, and cleanup required to install the roofs. The roofs shall be installed per the manufacture specifications.

ROOFING INSTALATION

The included specifications from IRS Asset Management Consultants should guide the installation of the roof replacement at both areas #1 and #3. The cost of replacing roof area #1 and #3, and all items required to complete the replacement shall be included in the Lump Sum price for ROOFING INSTALLATION.

INSULATION & WOOD SHEATHING

The Village of Gurnee wishes to conserve as much of the current insulation and wood sheathing. Although, it is expected that about 500 Square Feet of the wood sheathing and insulation in roof area #1 could be found damaged, and possibly need replacement as work is being performed. The Village has planned for this cost and is noted in the schedule of prices as REPLACEMENT OF WOOD SHEATHING AND INSULATION. In the event that any wood sheathing or insulation needs replacement, it should be installed per manufacture specifications.

VILLAGE OF GURNEE
PROPOSAL

Municipality: VILLAGE OF GURNEE

Road District WARREN

County LAKE

Permit No. _____

1. Proposal of (Bidders Legal Name): _____ for the improvement of said project by the construction of the **Village Hall Roof Replacement**, which includes: the replacement of about 22,669 Square Feet at the Gurnee Village Hall, and all other work necessary to complete the improvements.
2. The plans for the proposed work are those prepared by **the Village of Gurnee, Engineering Division, and 325 N. O'Plaine Road, Gurnee, Illinois 60031.**
3. The undersigned agrees to accept, as part of the contract, the applicable Special Provisions contained in this proposal.
4. The undersigned agrees to complete the work within three working months unless additional time is granted in accordance with the specifications.
5. The lump sum shall incorporate the cost of removal, installation, materials, and all other work necessary to complete the improvements.
6. The undersigned firm certifies that it has not been convicted of bribery or attempting to bribe an officer or employee of the State of Illinois, nor has the firm made an admission of guilt of such conduct which is a matter of record, nor has an official, agent, or employee of the firm committed bribery or attempted bribery on behalf of the firm and pursuant to the direction or authorization of a responsible official of the firm. The undersigned firm further certifies that it is not barred from bidding on this contract as a result of a conviction for the violation of State laws prohibiting bid-rigging or bid-rotating.

7. The undersigned submits herewith the attached proposal, listing a description of work to be performed as well as a total amount for completion of the project.

SCHEDULE OF PRICES

(For complete information covering these items, see plans and specifications)

ITEM NO.	ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
1	ROOFING INSTALLATION	L.S.	1		
2	REPLACEMENT OF WOOD SHEATHING AND ISULATION	S.F.	500		
PAGE TOTAL =					
BIDDER'S PROPOSAL FOR MAKING ENTIRE IMPROVEMENTS =					

(Is an individual)

Signature of Bidder _____

Business Address _____

(If a partnership)

Firm Name) _____

Signed By) _____

Business Address) _____

Insert Names and Addresses of All Partners) _____

(If a corporation)

Corporate Name) _____

Signed By) _____

Business Address) _____

Insert Names of Officers)

President: _____

Secretary: _____

Treasurer: _____

Attest: _____

Secretary

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISION
FOR
BIDDING REQUIREMENTS AND CONDITIONS FOR CONTRACT PROPOSALS

Effective: January 1, 2002

Revised: January 1, 2015

Replace Article 102.01 of the Standard Specifications with the following:

“Prequalification of Bidders. When prequalification is required and the Awarding Authority for contract construction work is the County Board of a County, the Council, the City Council, or the President and Board of Trustees of a city, village, or town, each prospective bidder, in evidence of competence, shall furnish the Awarding Authority as a prerequisite to the release of proposal forms by the Awarding Authority, a certified or photostatic copy of a "Certificate of Eligibility" issued by the Department of Transportation, according to the Department's "Prequalification Manual".

The two low bidders must file, within 24 hours after the letting, a sworn affidavit in triplicate, showing all uncompleted contracts awarded to them and all low bids pending award for Federal, State, County, Municipal and private work, using the blank form made available for this affidavit. One copy shall be filed with the Awarding Authority and two copies with IDOT's District office.

Issuance of Proposal Forms. The Awarding Authority reserves the right to refuse to issue a proposal form for bidding purposes for any of the following reasons:

- (a) Lack of competency and adequate machinery, plant, and other equipment, as revealed by the financial statement and experience questionnaires required in the prequalification procedures.
- (b) Uncompleted work which, in the judgment of the Awarding Authority, might hinder or prevent the prompt completion of additional work awarded.
- (c) False information provided on a bidder's "Affidavit of Availability".
- (d) Failure to pay, or satisfactorily settle, all bills due for labor and material on former contracts in force at the time of issuance of proposal forms.
- (e) Failure to comply with any prequalification regulations of the Department.
- (f) Default under previous contracts.
- (g) Unsatisfactory performance record as shown by past work for the Awarding Authority, judged from the standpoint of workmanship and progress.
- (h) When the Contractor is suspended from eligibility to bid at a public letting where the contract is awarded by, or requires approval of, the Department.

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- (i) When any agent, servant, or employee of the prospective bidder currently serves as a member, employee, or agent of a governmental body that is financially involved in the proposal work.
- (j) When any agent, servant, or employee of the perspective bidder has participated in the preparation of plans or specifications for the proposed work.

Interpretation of Quantities in the Bid Schedule. The quantities appearing in the bid schedule are approximate and are prepared for the comparison of bids. Payment to the Contractor will be made only for the actual quantities of work performed and accepted or materials furnished according to the contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased, or omitted as hereinafter provided.

Examination of Plans, Specifications, Special Provisions, and Site of Work. The bidder shall, before submitting a bid, carefully examine the provisions of the contract. The bidder shall inspect in detail the site of the proposed work, investigate and become familiar with all the local conditions affecting the contract and fully acquaint themselves with the detailed requirements of construction. Submission of a bid shall be a conclusive assurance and warranty the bidder has made these examinations and the bidder understands all requirements for the performance of the work. If his/her bid is accepted, the bidder shall be responsible for all errors in the proposal resulting from his/her failure or neglect to comply with these instructions. The Awarding Authority will, in no case, be responsible for any costs, expenses, losses, or change in anticipated profits resulting from such failure or neglect of the bidder to make these examinations.

The bidder shall take no advantage of any error or omission in the proposal and advertised contract. Any prospective bidder who desires an explanation or interpretation of the plans, specification, or any of the contract documents, shall request such in writing from the Awarding Authority, in sufficient time to allow a written reply by the Awarding Authority that can reach all prospective bidders before the submission of their bids. Any reply given a prospective bidder concerning any of the contract documents, plans, and specifications will be furnished to all prospective bidders in the form determined by the Awarding Authority including, but not limited to, an addendum, if the information is deemed by the Awarding Authority to be necessary in submitting bids or if the Awarding Authority concludes the information would aid competition. Oral explanations, interpretations, or instructions given before the submission of bids unless at a prebid conference will not be binding on the Awarding Authority.

Preparation of the Proposal. Bidders shall submit their proposals on the form furnished by the Awarding Authority. The proposal shall be executed properly, and bids shall be made for all items indicated in the proposal form, except when alternate bids are asked, a bid on more than one alternate for each item is not required, unless otherwise provided. The bidder shall indicate in figures, a unit price for each of the separate items called for in the proposal form; the bidder shall show the products of the respective quantities and unit prices in the column provided for that purpose, and the gross sum shown in the place indicated in the proposal form shall be the

summation of said products. All writing shall be with ink or typewriter, except the signature of the bidder which shall be written in ink.

If the proposal is made by an individual, that individual's name and business address shall be shown. If made by a firm or partnership, the name and business address of each member of the firm or partnership shall be shown. If made by a corporation, the proposal shall show the names, titles, and business addresses of the president, corporate secretary and treasurer. The proposal shall be signed by president or someone with authority to execute contracts and attested by the corporate secretary or someone with authority to execute or attest to the execution of contracts.

When prequalification is required, the proposal form shall be submitted by an authorized bidder in the same name and style as shown on the "Contractor's Statement of Experience and Financial Condition" used for prequalification.

Rejection of Proposals. The Awarding Authority reserves the right to reject any proposal for any of the conditions in "Issuance of Proposal Forms" or for any of the following reasons:

- (a) More than one proposal for the same work from an individual, firm, partnership, or corporation under the same name or different names.
- (b) Evidence of collusion among bidders.
- (c) Unbalanced proposals in which the bid prices for some items are, in the judgment of the Awarding Authority, out of proportion to the bid prices for other items.
- (d) If the proposal does not contain a unit price for each pay item listed, except in the case of authorized alternate pay items or lump sum pay items.
- (e) If the proposal form is other than that furnished by the Awarding Authority; or if the form is altered or any part thereof is detached.
- (f) If there are omissions, erasures, alterations, unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the proposal incomplete, indefinite or ambiguous as to its meaning.
- (g) If the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.
- (h) If the proposal is not accompanied by the proper proposal guaranty.
- (i) If the proposal is prepared with other than ink or typewriter, or otherwise fails to meet the requirements of the above "Preparation of Proposal" section.

Proposal Guaranty. Each proposal shall be accompanied by a bid bond on the Department form contained in the proposal, executed by a corporate surety company satisfactory to the Awarding Authority, by a bank cashier's check or a properly certified check for not less than five percent of the amount bid, or for the amount specified in the following schedule:

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Amount Bid	Proposal Guaranty
Up to	\$150
>\$5,000	\$300
>\$10,000	\$1,000
>\$50,000	\$3,000
>\$100,000	\$5,000
>\$150,000	\$7,500
>\$250,000	\$12,500
>\$500,000	\$25,000
>\$1,000,000	\$50,000
>\$1,500,000	\$75,000
>\$2,000,000	\$100,000
>\$3,000,000	\$150,000
>\$5,000,000	\$250,000
>\$7,500,000	\$400,000
>\$10,000,000	\$500,000
>\$15,000,000	\$600,000
>\$20,000,000	\$700,000
>\$25,000,000	\$800,000
>\$30,000,000	\$900,000
Over	\$1,000,000

In the event that one proposal guaranty check is intended to cover two or more proposals, the amount must equal to the sum of the proposal guaranties which would be required for each individual proposal.

Bank cashier's checks or properly certified checks accompanying proposals shall be made payable to the County Treasurer, when a County is the Awarding Authority; or the City, Village, or Town Treasurer, when a city, village, or town is the Awarding Authority.

The proposal guaranty checks of all, except the two lowest responsible, will be returned promptly after the proposals have been checked, tabulated, and the relation of the proposals established. Proposal guaranty checks of the two lowest bidders will be returned as soon as the contract and contract bond of the successful bidder have been properly executed and approved. Bid bonds will not be returned.

After a period of three working days has elapsed after the date of opening proposals, the Awarding Authority may permit the two lowest bidders to substitute for the bank cashier's checks or certified checks submitted with their proposals as proposal guaranties, bid bonds on the Department forms executed by corporate surety companies satisfactory to the Awarding Authority.

Delivery of Proposals. If a special envelope is supplied by the Awarding Authority, each proposal should be submitted in that envelope furnished by the Awarding Authority and the blank spaces on the envelope shall be filled in correctly to clearly indicate its contents. When an envelope other than the special one furnished by the Awarding Authority is used, it shall be marked to clearly indicate its contents. When sent by mail, the sealed proposal shall be addressed to the Awarding Authority at the address and in care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in the Notice to

Bidders. Proposals received after the time specified will be returned to the bidder unopened.

Withdrawal of Proposals. Permission will be given a bidder to withdraw a proposal if the bidder makes the request in writing or in person before the time for opening proposals.

Public Opening of Proposals. Proposals will be opened and read publicly at the time and place specified in the Notice to Bidders. Bidders, their authorized agents, and other interested parties are invited to be present.

Consideration of Proposals. After the proposals are opened and read, they will be compared on the basis of the summation of the products of the quantities shown in the bid schedule by the unit bid prices. In awarding contracts, the Awarding Authority will, in addition to considering the amounts stated in the proposals, take into consideration the responsibility of the various bidders as determined from a study of the data required under "Prequalification of Bidders", and from other investigations which it may elect to make.

The right is reserved to reject any or all proposals, to waive technicalities, or to advertise for new proposals, if in the judgment of the Awarding Authority, the best interests of the Awarding Authority will be promoted thereby.

Award of Contract. The award of contract will be made within 45 calendar days after the opening of proposals to the lowest responsible and qualified bidder whose proposal complies with all the requirements prescribed. The successful bidder will be notified by letter of intent that his/her bid has been accepted, and subject to the following conditions, the bidder will be the Contractor.

An approved contract executed by the Awarding Authority is required before the Awarding Authority is bound. An award may be cancelled any time by the Awarding Authority prior to execution in order to protect the public interest and integrity of the bidding process or for any other reason if, in the judgment of the Awarding Authority, the best interests of the Awarding Authority will be promoted thereby.

If a contract is not awarded within 45 days after the opening of proposals, bidders may file a written request with the Awarding Authority for the withdrawal of their bid, and the Awarding Authority will permit such withdrawal.

Requirement of Contract Bond. If the Awarding Authority requires a Contract Bond, the Contractor or Supplier shall furnish the Awarding Authority a performance and payment bond with good and sufficient sureties in the full amount of the contract as the penal sum. The surety shall be acceptable to the Awarding Authority, shall waive notice of any changes and extensions of time, and shall submit its bond on the form furnished by the Awarding Authority.

Execution of Contract. The contract shall be executed by the successful bidder and returned, together with the Contract Bond, within 15 days after the contract has been mailed to the bidder.

If the bidder to whom the award is made is a corporation organized under the laws of a State other than Illinois, the bidder shall furnish the Awarding Authority a

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copy of the corporation's Certificate of Authority to do business in the State of Illinois with the return of the executed contract and bond. Failure to furnish such evidence of a Certificate of Authority within the time required will be considered as just cause for the annulment of the award and the forfeiture of the proposal guaranty to the Awarding Authority, not as a penalty, but in payment of liquidated damages sustained as a result of such failure.

Failure to Execute Contract. If the contract is not executed by the Awarding Authority within 15 days following receipt from the bidder of the properly executed contracts and bonds, the bidder shall have the right to withdraw his/her bid without penalty.

Failure of the successful bidder to execute the contract and file acceptable bonds within 15 days after the contract has been mailed to the bidder shall be just cause for the cancellation of the award and the forfeiture of the proposal guaranty which shall become the property of the Awarding Authority, not as penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible bidder, or the work may be readvertised and constructed under contract, or otherwise, as the Awarding Authority may decide.”

May 29, 2018

Mr. Scott Drabicki
Village of Gurnee
325 N. O'Plaine Road
Gurnee, IL 60031

Subject: Phase 1 Letter for Village of Gurnee - Village Hall Roof Replacement
Gurnee, IL
IRS Job No. 16758

Dear Mr. Drabicki:

In accordance with Phase 1 of our proposal for the above referenced project, enclosed please find a summary of the existing roof analysis, suggested roof replacement options, and estimated costs. Please refer to the attached roof plan of the facility to provide you with a visual reference of the roof areas discussed.

Existing Roof Analysis

The roof system consists of three (3) separate roof areas:

Roof Area 1

Roof Area 1 is the primary roof system over 90% of the facility. It consists of prefabricated wood trusses supporting an OSB roof deck sloped at approximately 9" per lineal foot. Atop the OSB is a 3" composite board (nailbase) consisting of 2.5" polyisocyanurate insulation laminated to ½" plywood. Atop the nailbase is the existing architectural laminated shingle roof system. It drains via eave run-off, with the exception of a few small sections of gutter installed above building entrances and sidewalks. This roof area encompasses approximately 22,669 square feet of roof surface. As described within the 2017 roof survey report, the roof system has reached the end of its useful service life and is in need of replacement.



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Roof Area 2

Roof Area 2 consists of two (2) separate low-slope areas on the west side of the building where modified bitumen roof systems are installed. These roof systems remain in serviceable condition and are not included in this project.

Roof Area 3

Roof Area 3 consists of two (2) small areas on the west and north ends of the facility waterproofed with a gravel-surfaced built-up roof system over tapered insulation atop a plywood roof deck. These areas encompass approximately 225 square feet of roof surface and drain via scuppers. They are original to the building's construction and should be replaced in conjunction with Roof Area 1.



Suggested Roof Replacement Options

Two (2) suggested roof replacement options are provided below for your consideration. Suitable options are determined based upon parameters such as existing construction, building use, anticipated service life, and code requirements. As described within the 2017 roof survey report, the existing roof system lacks ventilation below the wood substrate; however, having been designed with an insulated composite roof deck, the roof system has performed beyond the end of its design service life. The lack of ventilation appears to have had minimal effect on the shingle roof system's performance. Therefore, complete tear-off, redesign and replacement of the nailbase as part of this project is not recommended.

Option #1: Architectural Laminated Asphalt Shingles

The existing shingles and underlayment would be removed down to the plywood sheathing. The existing perimeter sheet metal would be left in place, as the shop-fabricated custom-profile drip edge remains in good condition and does not require replacement in order to install a new shingle roof system. (sheet metal valley flashings would be replaced). Any wet or damaged materials found would be removed and replaced to match existing, including wood sheathing, insulation, and nailers. It is recommended that the bids received include a specified Construction Allowance to fund replacement of any wet nailbase on a unit-price basis. Leak barrier would then be installed at all perimeters and transitions, followed by a synthetic underlayment and architectural laminated asphalt shingles. This roof system would have an anticipated service life of 25 years.

The cost estimate provided below represents installation of shingles that are similar to the existing shingles, which have a 25-year design service life. Alternatively, Ownership could elect to install

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premium lifetime designer shingles. Several aesthetic options are available, but these typically have a design service life of 40 years.

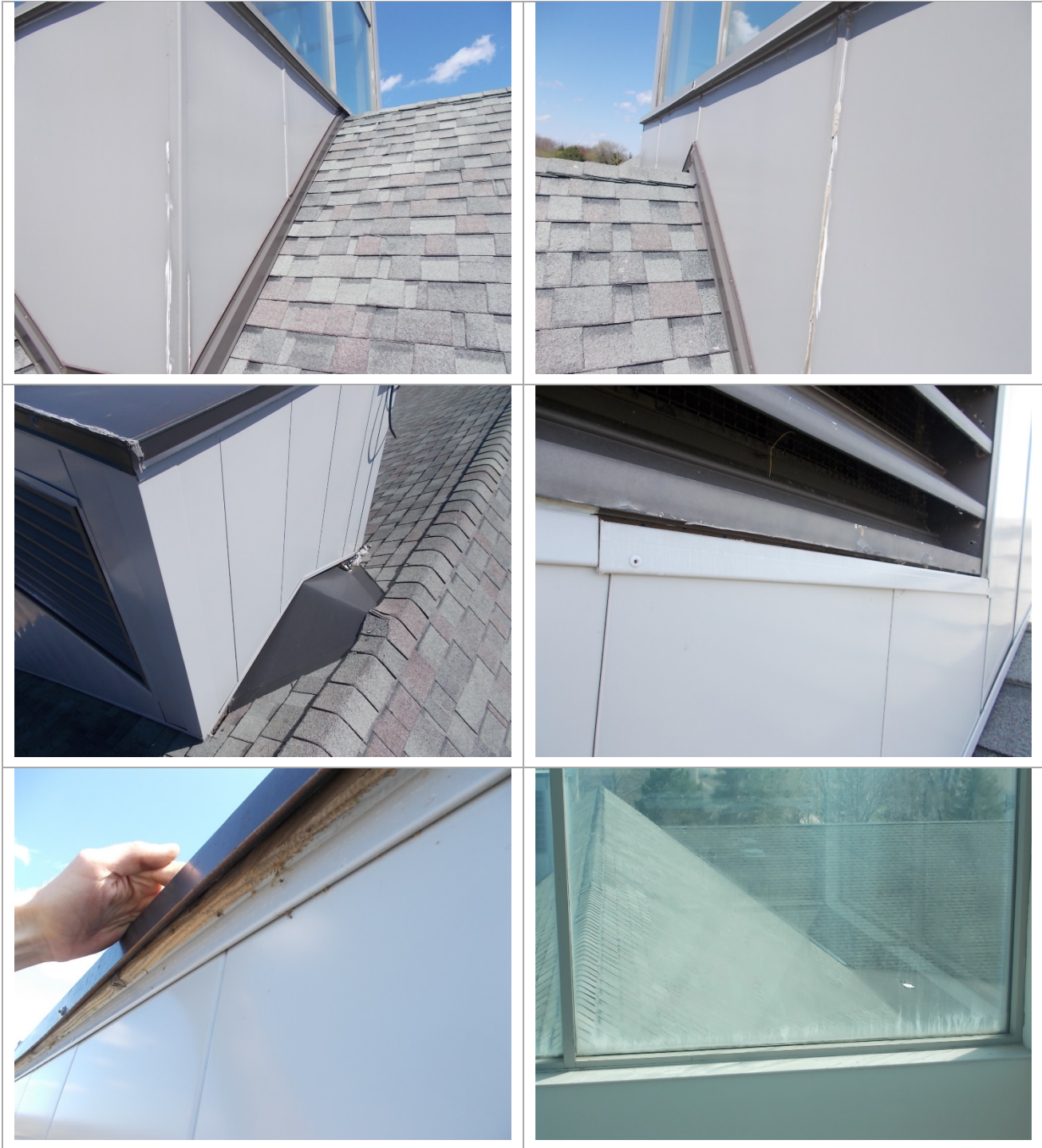
Estimated Cost for Option #1

In-Kind Shingle Replacement.....	\$150,000 - \$170,000
Premium Lifetime Designer Shingles (optional)	\$60,000

Roof Area 3: 60-mil EPDM Single-Ply, Fully-Adhered

With both options discussed above, it is recommended that the small built-up roof system be replaced with a fully-adhered EPDM single-ply roof system on Roof Area 3. The existing gravel surfacing, built-up membrane, tapered insulation, and perimeter sheet metal would be removed down to the existing plywood substrate. A new tapered insulation system would be installed to direct water to the perimeter scuppers, followed by a gypsum cover board and 60-mil EPDM single-ply membrane, fully-adhered. New sheet metal flashings would be installed along the perimeters. *The estimated cost for Roof Area 3 is included in the costs for Option 1 & 2 above.*

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Please contact me to confirm your understanding and agreement/selection of the items discussed prior to undertaking Phase II of our proposal. We will then proceed with roof system design and generate the project documents.

If you should have any questions regarding the above information, please feel free to contact me.

Sincerely yours,
INDUSTRIAL ROOFING SERVICES, INC.

Dave Angove

Dave Angove
Project Manager



IRS

Industrial Roofing Services, Inc.

13000 West Silver Spring Drive

Butler, Wisconsin 53007

Phone: (262) 432-0500

Fax: (262) 432-0504

www.irsroof.com

SPECIFICATIONS

for

ROOF REPLACEMENT PROJECT

GURNEE VILLAGE HALL

ROOF AREAS 1 & 3 / IRS JOB# 16758

Located at

325 N. O'PLAINE ROAD

GURNEE, IL

Prepared for

Mr. Scott Drabicki
Village Engineer

Village of Gurnee
325 N. O'Plaine Road
Gurnee, IL 60031

July 12, 2018

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APPENDICES

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- A0 – Cover Sheet
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- A7.0 – Roof Typical Detail 1

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SECTION 01010

SUMMARY OF WORK

PART 1 - GENERAL

1.01 PROJECT OVERVIEW

- A. The Work consists of roofing replacement on Roof Areas 1 & 3 at the Gurnee Village Hall in Gurnee, IL for the Village of Gurnee.
 - 1. *Roof Area 1 (Primary Shingle Roof)*
 - a. *Removal of existing asphalt shingles and underlayment down to wood substrate.*
 - b. *Installation of a laminated asphalt shingle roof system.*
 - 2. *Roof Area 3 (Small Adjacent Ancillary Roof Areas)*
 - a. *Removal of existing built-up roof system down to the roof deck.*
 - b. *Installation of new tapered insulation, cover board, and fully-adhered EPDM single-ply membrane over the existing roof deck.*
- B. The work does not include replacement of Roof Area 2 (adjacent modified bitumen roof areas). Contractor shall provide membrane protection over these areas as needed to ensure no damage occurs while completing the shingle work.
- C. The Work includes related sheet metal and carpentry work.
- D. Contractor will be responsible for protecting any exterior areas of pedestrian traffic that may be affected by the work in order to allow normal building operations and access to continue without interruption, as described in Section 01500 - Site Conditions and Control, and as follows:
 - 1. When a given work day involves working above or near pedestrian areas, the Contractor shall barricade the sidewalks, entrances, and other pedestrian walkways below that day's work area. Contractor shall provide signage directing pedestrians to alternate routes and auxiliary entrances, which shall be confirmed and coordinated with the Owner on a daily basis.
- E. The Owner will not be responsible for any work associated with this project.

PART 2 - PRODUCTS

2.01 SYSTEM COMPONENTS

- A. **Roof Area 1: Asphalt shingle roof system:**
 - 1. Substrate: (for replacement of existing nailbase below shingle roof system, if needed)
 - a. Plywood/Polyisocyanurate composite insulation board (Nailbase)
 - 1) Match existing
 - b. Insulation fastening screws, as provided by nailbase manufacturer.
 - 2. Laminated, architectural fiberglass reinforced asphalt shingles.
 - 3. Synthetic shingle underlayment
 - 4. Leak barrier
 - 5. Shingle nails (no staples will be allowed).
- B. **Roof Area 3: Fully-adhered EPDM single-ply roof system:**
 - 1. Insulation system
 - a. Tapered polyisocyanurate insulation
 - b. Gypsum cover board (DensDeck)
 - c. Insulation fastening plates and screws.
 - 2. 60-mil unreinforced EPDM single-ply roof membrane.
 - 3. Reinforced perimeter securement strips.
 - 4. Membrane bonding adhesive

5. Roof flashings:
 - a. Cured EPDM single-ply membrane (base flashings).
 - b. Semi-cured EPDM single-ply strip-in flashing (metal flange strip-in).
 - c. Uncured EPDM single-ply membrane (details - corners, flanges, etc.).
 - d. Membrane cleaner and splice tape.
 - e. Membrane splice and bonding adhesives.
- C. 24 gauge prefinished galvanized sheet metal.
- D. Extruded aluminum termination bar with caulking cup.
- E. Miscellaneous fasteners.
- F. Miscellaneous sealants and tape caulk.

2.02 COMPONENTS SUPPLIED BY OWNER

- A. None.

PART 3 - EXECUTION

3.01 WORK PERFORMED BY CONTRACTOR

- A. **Roof Area 1 (Primary Shingle Roof)**
 1. Remove the existing shingles and underlayment down to the existing nailbase sheathing.
 - a. Be careful to avoid damage to the existing sheet metal flashings along rake edges, eaves and side-walls, as the metal flashings shall remain in place for reuse, except where shown as new in the Construction Drawings.
 2. Clean the exposed nailbase of all shingle fasteners and debris. Replace any deteriorated nailbase as required. Obtain unit price approval prior to completing any Additional Work.
 3. Install self-adhering leak barrier at eaves, rake edges and valleys as specified, or where shown or required by the Construction Drawings.
 4. Install shingle underlayment in shingle fashion over the entire roof deck.
 5. Install a starter strip along all eaves and rake edges prior to installing the new shingles.
 6. Install the asphalt shingles over the completed leak barrier, shingle underlayment and starter shingles in accordance with the manufacturer's printed instructions. Install the integral metal flashings (step flashings, valley flashings, etc.) at the same time as the shingles.
 - a. Shingles shall be fastened with 6 nails per shingle
- B. **Roof Area 3 (Small Adjacent Ancillary Roof Areas)**
 1. Remove existing roof membrane, insulation, flashings, and perimeter metal down to the existing wood substrate.
 2. Clean the exposed wood deck of all debris. Repair or replace decking as required. Obtain unit price approval for Additional Work completed.
 3. Install the specified tapered insulation system to the deck.
 4. Install the specified cover board and mechanically fasten through the insulation to the wood deck.
 5. Mechanically attach the reinforced perimeter securement strips where shown in the Construction Drawings.
 6. Adhere the EPDM single-ply roof membrane to the completed insulation in a continuous and uniform application of membrane bonding adhesive; adhere to the perimeter securement strips with splice adhesive.
 7. Thoroughly clean all membrane and flashing laps; join membrane laps with splice tape. Thoroughly inspect all laps daily after installation for signs of improper bonding. Apply lap sealant to all seams on the same day as completion.

- C. All perimeters and projections are to be constructed and flashed in strict accordance with the Construction Drawings provided.

3.02 INCLUSIONS

- A. The Contractor shall include, in his bid, any and all costs incurred in complying with the intent of the Construction Drawings. This shall include, but not be limited to:
 - 1. Handling, disconnection and re-connection of rooftop equipment – crane costs, electrical work, lightning protection, ductwork and mechanical line extensions, temporary storage, etc.

END OF SECTION

SECTION 01340

SUBMITTALS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section provides requirements for project submittals and guidelines for submittals, by the Contractor or his Subcontractor, of shop drawings and other submittals as requested in the Project Documents.

1.02 SUBMISSION REQUIREMENTS

- A. Submittals listed below shall be delivered to the Consultant as soon as possible after Contract Award, but no later than ten (10) days prior to Contractor's intent to start work, and/or a minimum of five (5) days before approval is needed to order materials.
- B. Accompany submittals with transmittal letter, containing:
1. Date.
 2. Project title and IRS Job number.
 3. Contractor's name and address.
 4. Notification of deviations from Contract Documents, if any.
- C. Required Submittal items:
1. Insurance Certificate: Per Owner's requirements, with the Consultant (and any other entities specified) named as Additional Insureds.
 2. Performance Bond: If required in the Bidding Documents, per Owner's requirements.
 3. Materials: **List** of major products proposed for use, with name of manufacturer, trade name or model number of product or materials (final list may be provided at the pre-construction meeting if changing between specified products). Submit product data sheets, printed information, installation instructions, catalog cuts, or material color charts.
 4. Safety Data Sheets: Provide copies of SDS for each product that will be brought on-site.
 5. Project Schedule: Provide a breakdown of the project schedule timetable by **each major portion** of the work. As a minimum, include start and completion dates for each required task.
 6. Schedule of Values: Provide a breakdown of project cost by **each major portion** of the Work such as mobilization, tear-off/temporary roof, insulation/membrane, flashings, sheet metal, etc. **DO NOT** list only roofing material and roofing labor.
 7. Manufacturer's Certification: Submit a letter from the manufacturer stating their intent to warrant the project, as specified, including certification of the Contractor's standing as a licensed applicator of the specified roof system.
 8. Warranty: Submit a sample copy of the applicable manufacturer's warranty as well as a copy of the completed application for warranty.
 9. Project Contacts: Provide all necessary contact numbers (cellular, pager, etc.) for key personnel involved in the project. Include after-hours contact name and home telephone number in case of emergency. Also provide subcontractors' names, addresses, contact names, and phone/fax numbers, if applicable.

1.03 CONTRACTOR RESPONSIBILITIES

- A. The Contractor shall review the product data and samples prior to submission. The Contractor shall date and initial, sign, or stamp the submittals to certify his review and acceptance.
- B. Verification of existing field measurements and conditions is the SOLE responsibility of the Contractor.

- C. The Contractor's responsibility for errors and omissions in submittals is not relieved by the Consultant's review or acceptance of submittals.
- D. Clearly indicate, in the submittals, any deviations from the requirements of the Project Documents caused by acceptance of substitutions, negotiations with the Owner after the Bid, etc. Any changes to the Project Documents must be confirmed by written Change Order.
- E. The Contractor shall not begin work prior to receipt of the approved submittals from the Consultant.

1.04 DISTRIBUTION OF SUBMITTALS

- A. The Consultant will retain three (3) copies of approved or approved-as-noted submittals, two for IRS office use, and one for the Owner, and will return the remaining copies to the Contractor.
- B. The Contractor shall be responsible for distributing submittals which carry the Consultant's approval, as required for construction or fabrication, to the project Superintendent, Subcontractors, and material suppliers or distributors.

PART 2 - PRODUCTS

- A. Not Used.

PART 3 - EXECUTION

- A. Not Used.

END OF SECTION

SECTION 01400 QUALITY CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section provides requirements for the standards of quality for materials and workmanship for this project.

1.02 GENERAL

- A. The Contractor shall maintain quality control over his employees, suppliers, manufacturer's products, services and site conditions to produce work of specified quality.

1.03 WORKMANSHIP

- A. Comply with recognized industry standards, except where specifications indicate more rigid standards or more precise workmanship.
- B. Perform the Work with personnel qualified to produce workmanship of specified quality.

1.04 APPLICATION QUALITY CONTROL

- A. The Contractor shall be experienced in all aspects of the type of work being performed.
- B. The Contractor shall be approved, by the roof system manufacturer, to install the specified roof system prior to the commencement of the Work. The Contractor shall also be certified to procure the specified warranty.
- C. The Contractor's foreman shall, at all times, have a complete set of Project Documents, including specifications, drawings, SDS sheets and approved submittals for his use and reference, on the project site. The foreman shall produce these Project Documents upon request of either the Owner or the Consultant. Failure to do so will result in a violation of Item 1.07 of this Section.

1.05 MANUFACTURER'S FIELD SERVICES

- A. The roof system manufacturer shall make available, upon request, qualified personnel to observe field conditions, conditions of surfaces and installation and quality of workmanship.
- B. The roof system manufacturer shall make qualified personnel available to make necessary recommendations during the course of the project, and to perform a final review of the Work, if requested.
- C. The manufacturer's representative shall submit a copy of his written report to the Consultant, listing observations and recommendations.

1.06 CONSTRUCTION OBSERVATION

- A. Construction observation shall be conducted by the Consultant on a periodic basis, as determined by agreement with the Owner. If the Contractor is cited for non-compliance with the specifications during the course of a site visit, all parties shall be notified with a copy of the observation report.
- B. In the event that the Contractor is cited for the same non-compliance item twice, or any three items total, the Owner may employ the Consultant to provide more frequent observation or full-

time observation, to ensure compliance with the Project Documents. The cost of these additional visits may be deducted, in whole or in part, from the Contractor's final contract amount.

PART 2 - PRODUCTS

A. Not Used.

PART 3 - EXECUTION

A. Not Used.

END OF SECTION

SECTION 01500

SITE CONDITIONS AND CONTROLS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section provides requirements for the Contractor's operations at the project site, including use of existing facilities and utilities, delivery and storage of materials and equipment and controls affecting work operations.

1.02 SECURITY AND ACCESS

- A. Security: follow the Owner's procedures and requirements, as established during the pre-construction conference.
- B. Maintenance of access and operations:
 - 1. During the performance of the Work, the Owner shall continue to perform his normal operations in the building. The Contractor shall maintain access to Owner-occupied areas at all times.
 - 2. Schedule demolition and roofing work with the Owner in such a manner as to allow his normal operations to continue without interruption.
- C. Maintenance of existing services:
 - 1. The Contractor shall, during the performance of the Work, not adversely affect the temperature and humidity of the building interior; dust and debris shall be controlled to prevent interference with normal operations.
 - 2. Notify the Owner a minimum of three (3) days prior to each required interruption of mechanical or electrical services in building. Such interruptions shall occur only when, and for the length of time, approved by the Owner.
- D. Building access:
 - 1. Access to the building's interior shall be restricted to investigating leaks and performing portions of the Work which requires such interior access. The Contractor shall not have access to the building's interior during non-business hours unless previously arranged with the Owner.
 - 2. All access to the project site shall be by way of exterior means provided by the Contractor.
 - 3. Restrict construction traffic over adjacent areas as designated by the Owner during the pre-bid meeting.

1.03 MATERIAL STORAGE AND HANDLING

- A. Store materials on-site where specified in Section 01600 - "Materials and Equipment." Do not use any portion of the building interior for storage, unless specifically approved by the Owner.
- B. Stored materials shall be available for review by the Owner or Consultant at all times.
- C. Handle all materials properly and in original cartons or containers to prevent damage. Provide for all necessary rigging of materials and equipment supplied to the project site.

1.04 SANITARY FACILITIES

- A. The Contractor shall provide adequate, temporary chemical toilets for use by his employees. The toilets shall be in place at the project site when the Work is commenced.

- B. Upon completion of the Work, remove these facilities and all traces thereof.

1.05 TEMPORARY WATER

- A. The Contractor shall make arrangements with the Owner for water as required during the performance of the Work.
- B. The Owner shall be responsible for the cost of the water supply.
- C. The Contractor shall be responsible for providing hoses necessary for conveyance.

1.06 TEMPORARY ELECTRICAL POWER

- A. The Contractor shall make arrangements for electrical service, as necessary for completion of the Work, as established during the pre-bid meeting.
- B. In the event that the Owner agrees to provide access to electrical service, he shall pay all energy charges for power and/or lighting used by the Contractor.

1.07 ENVIRONMENTAL CONDITIONS

- A. Do not work in rain or snow, or in the presence of visible precipitation.
- B. Do not install materials marked "Keep from Freezing" when daily temperatures are predicted to fall below 40°F.
- C. Do not perform masonry work unless the temperature is above 35°F and rising. Make provisions to protect masonry work from freezing for a period of forty-eight (48) hours after completion. Remove any masonry work that has been exposed to freezing within forty-eight (48) hours of completion.

1.08 DEBRIS REMOVAL

- A. Remove debris promptly from the roof each day. Do not allow piled debris to accumulate.
- B. All removed material, unless specifically noted for retention by the Owner, becomes the property of the Contractor.
- C. Do not allow debris to enter roof drains, storm sewers, catch basins, etc.
- D. Provide at site, prior to commencing removal of debris, a dumpster or dump truck to be located adjacent to the building where directed by the Owner.
- E. Protect the building surfaces at set-up and debris removal areas. Take all precautions necessary to prevent the scattering of roofing debris during removal operations.
- F. Remove dumpster or dump truck from the premises when full and dispose of at an approved dumping or refuse area.
- G. Upon job completion, dumpster or dump truck and set-up area protection shall be removed from premises. All spilled or scattered debris shall be cleaned up immediately.

1.09 PARKING FACILITIES

- A. The Owner shall provide vehicle parking assignments and/or restrictions for the Contractor to the extent established during the pre-bid meeting.

1.10 LEAK (WATER) DAMAGE CONTROL

- A. In the event of rain during performance of the Work, make roof system watertight and immediately inspect the interior of the building for leaks. The Contractor shall continue to check on the watertight status of the roof system on a 24-hour basis.
- B. Coordinate procedures with the Owner for access to the building during non-business hours for emergency work.
- C. If leaks are discovered during rains. Immediately notify the Owner of leak condition and perform emergency repairs on the roof system to stop leaks.

1.11 CLEANING

- A. The Contractor shall remove all spillage, overspray, or collections of dust or debris, and repair any damage inflicted on Owner-occupied spaces during the course of the Work.
- B. As soon as work on a roof area is complete, clean up all surfaces, remove equipment, materials and debris, and restore to a condition suitable for use by the Owner as quickly as possible.

PART 2 - PRODUCTS

- A. Not Used.

PART 3 - EXECUTION

- A. Not Used.

END OF SECTION

SECTION 01600

MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section includes general requirements for delivery, storage and handling of products to be used in the Work.

1.02 GENERAL

- A. Materials to be incorporated into the Work:
 - 1. Shall conform to applicable specifications and standards.
 - 2. Shall comply with the size, make, type and quality specified or shall be substitute products as specifically approved, in writing, by the Consultant.
 - 3. Fabricated products:
 - a. Fabricate and assemble in accordance with recognized industry standards.
 - b. Shall conform to the dimensions and configuration shown or specified or in accordance with approved shop drawing submittals.
- B. Materials shall not be used for purposes other than those for which they are designed, unless otherwise specified.

1.03 REUSE OF EXISTING MATERIALS

- A. Except as specifically indicated in the Construction Drawings or in Section 01010 - "Summary of Work," materials and equipment removed from the existing construction shall not be utilized in the completed Work.
- B. Where materials and equipment are specifically indicated to be reused in the Work:
 - 1. Use special care in removal, handling, storage and reinstallation, to assure adequate and proper function in the completed Work.
 - 2. The Contractor shall be responsible for transportation, storage and handling of products which require off-site storage, restoration or renovation.

1.04 MANUFACTURER'S INSTRUCTIONS

- A. Where Project Documents require that the installation of work shall comply with the manufacturer's printed instructions, obtain and distribute copies of those instructions to all parties involved in the installation, including two copies to the Consultant.
 - 1. Maintain one set of complete instructions at the project site until completion of the work.
 - 2. Include copies of the printed instructions with the appropriate Product Data submittal.
- B. Handle, install, connect, clean, condition and adjust products in strict accordance with such instructions, and in conformity with specified requirements.
 - 1. Should existing conditions or specified requirements conflict, in any way, with the manufacturer's instructions, request clarification from the Consultant. Failure to notify the Consultant shall be grounds for rejection of the completed work.
 - 2. Do not proceed with work without clear instructions.

1.05 TRANSPORTATION AND HANDLING

- A. Arrange for delivery of materials in accordance with construction schedules; coordinate to avoid conflict with sequencing of the Work and conditions at the project site.
 - 1. When being transported to the project site by the Contractor, cover and protect materials in transit against entrance of dirt and/or weather damage.
 - 2. Deliver materials in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
 - 3. Immediately upon delivery, inspect shipments to assure compliance with requirements of the Project Documents and approved submittals, and to assure that materials are properly protected and undamaged.
- B. Handle all materials properly and in original cartons or containers to prevent damage.
- C. Provide equipment and personnel to handle materials using methods necessary to prevent soiling or damage to products or packaging.

1.06 STORAGE OF MATERIALS

- A. Stored materials shall be available for review by the Owner or Consultant at all times.
- B. Store rolled goods on ends only. Discard rolls which have been flattened, creased, or otherwise damaged.
- C. Do not use any portion of the building interior for storage, unless specifically approved by the Owner.
 - 1. Disperse materials on rooftop to avoid concentrated loading of structure.
 - 2. Do not place materials on newly completed roofing or on areas of roofing not included in the Work.
- D. Stack insulation and roll goods on pallets; neatly stack wood on dunnage. Do not stack pallets.
- E. Materials which, in the judgment of the Consultant, have been damaged, contaminated or improperly stored shall be immediately removed from the project site and replaced with new materials.

PART 2 - PRODUCTS

- A. Not Used.

PART 3 - EXECUTION

- A. Not Used.

END OF SECTION

SECTION 01700

CONTRACT CLOSE-OUT AND WARRANTIES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section includes requirements for specific administrative procedures, close-out submittals, warranties and other forms to be used at the final completion of the Work.

1.02 CLOSE-OUT PROCEDURES

- A. When the Contractor considers the Work complete, he shall submit **Written Notice** to the Consultant that:
1. He has reviewed the Project Documents and inspected the project for compliance with them;
 2. He certifies that the Work has been completed in accordance with the Project Documents; and
 3. He certifies that the project is complete, to his satisfaction, and is ready for the Final Review.
- B. The Consultant will perform the Final Review after receipt of the Contractor's **Written Notice** of project completion.
1. If the Consultant considers the Work to be complete and in accordance with the requirements of the Project Documents he shall notify the Contractor to produce the Contract Close-out submittals, as described below.
 2. If the Consultant considers the Work to be incomplete or not in accordance with the requirements of Project Documents:
 - a. He shall notify the Contractor, in writing, of the deficiencies.
 - b. The Contractor shall take immediate steps to remedy the identified deficiencies, and shall make the Work ready for re-review.
 - c. The Contractor shall submit a second **Written Notice** to the Consultant confirming that the identified deficiencies have been remedied.
 - d. The Consultant shall review the Work and, if complete, shall notify the Contractor to produce the Contract Close-out Submittals.
 3. Should the Consultant be required to perform a third review of the Work due to the failure of the Contractor to correct previously-identified deficiencies, the Owner may retain, from moneys due the Contractor, such amount as necessary to compensate the Consultant for additional visits.

1.03 FINAL CLEANING

- A. Perform project clean-up prior to the Final Review:
1. Clean roof surface, gutters, downspouts and drainage system free from foreign matter and debris.
 2. Remove all grease, mastics, adhesives, bitumen or other foreign materials from sight-exposed exterior surfaces of the building.
 3. Repair, patch and touch up marred surfaces to match adjacent finishes.
 4. Remove all waste and surplus material, rubbish, and construction facilities from the project site.
 5. Repair the grounds and landscaping in accordance with Section 02900 - "Grounds Repair."
 6. Prior leaving the project site, conduct a thorough review of the roof surface and all sight-exposed exterior surfaces in work areas, to verify that the entire Work is clean.

1.04 CLOSE-OUT SUBMITTALS AND WARRANTIES

- A. Guarantees, Warranties and Bonds:
1. The Contractor shall, upon project completion provide the following original warranty documents to the Consultant for the delivery to the Owner:
 - a. After the Consultant's acceptance, the Contractor shall deliver to the Consultant each manufacturer warranty required by individual Sections of the Project Specifications, to be effective once complete payment has been received by both the Contractor and material suppliers.
 - b. Contractors two (2) year workmanship warranty for labor and materials.
- B. Certification:
1. Prevailing Wage: The Contractor shall submit affidavits of compliance with the prevailing wage rate determination, if applicable, including those from subcontractors.
 2. Lien Waivers: The Contractor shall submit final Waivers of Lien including those from subcontractors, material suppliers, or any other parties that may have lien rights against the property of the Owner, including a list of those parties. All waivers of lien shall be verified and duly executed before submittal.
- C. Final Application for Payment:
1. The Contractor shall submit a final Application for Payment form showing the remaining amount due.

1.05 CONTRACT CLOSE-OUT PACKAGE

- A. The Contractor shall submit the Contract Close-out package to IRS Corporate Office in accordance with these requirements. The Consultant shall review the Contract Close-out Package for accuracy and completeness.
1. Contract Close-out Packages that are accurate, complete and in proper form shall be approved by Consultant and submitted to Owner on a timely basis.
 2. Contract Close-out Packages that are not accurate, complete and in proper form, Consultant shall notify Contractor of its rejection and cause the Package to be set aside for forty-five (45) days, after which time Consultant shall again review corrected Contract Close-out Package if received and if correct, shall approve final payment and submit them to the Owner on a timely basis.

IRS CORPORATE OFFICE
Industrial Roofing Services, Inc.
13000 West Silver Spring Drive
Butler, Wisconsin 53007

PART 2 - PRODUCTS

- A. Not Used.

PART 3 - EXECUTION

- A. Not Used.

END OF SECTION

SECTION 02900 GROUNDS REPAIR

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section covers the removal, and replacement with like materials, of lawns, plantings, and pavement damaged by the Contractor during the performance of the Work.
- B. The cost of all repairs covered under this section shall be the **sole** responsibility of the Contractor. If the Contractor fails to make repairs to the Owner's satisfaction, the Owner reserves the right to retain, from moneys due the Contractor, such amount as necessary to repair the grounds to their previous condition.

1.02 REQUIREMENTS

- A. Any areas of lawn that require repair shall be resodded. Re-seeding will not be acceptable.
- B. All plants and planting materials shall meet "Horticultural Standards" for number one grade nursery stock as adopted by the American Association of Nurserymen.
- C. All plants and planting materials shall meet or exceed applicable regulatory requirements and inspections for plant disease and insect control.

1.03 WORK SEQUENCING

- A. Do not proceed with permanent replacements until after the Contractor has cleaned and vacated the project site.
- B. Replacement plantings and/or sod:
 - 1. Place plantings and/or sod within forty-eight (48) hours of cutting; protect and maintain during transit and storage on the site to prevent dry-out.
 - 2. All plantings and/or sod remaining unplaced on the site longer than forty-eight (48) hours, as well as any yellowing or otherwise discolored plantings and/or sod shall be discarded.

1.04 WARRANTY

- A. The Contractor shall maintain and warrant all work performed under this section for a period of ninety (90) days from the date of its completion. The Contractor shall be responsible for the correction of unsatisfactory landscaping materials or workmanship and shall repair such defects promptly upon notice, at no additional cost to the Owner.

PART 2 - PRODUCTS

2.01 ACCEPTABLE LAWN REPAIR PRODUCTS

- A. Provide topsoil which is:
 - 1. Natural, friable, and characteristic of soil on the project site;
 - 2. Not extremely acidic nor alkaline, nor containing toxic substances;
 - 3. Free from subsoil, clay lumps, stones, roots, debris or other foreign objects;
 - 4. Contains 1/3, by volume, soil amendment - organic material, fortified with organic nitrogen.

- B. Provide fertilizer which is:
 - 1. Commercially-balanced 11-8-4 composition.
 - 2. Free flowing to allow for mechanical spreading.
- C. Provide sod which is:
 - 1. Well established, containing dense root systems;
 - 2. Exhibiting vigorous, healthy root growth;
 - 3. Free of noxious weeds, objectionable grasses, grubs, diseases or injurious insects.

2.02 ACCEPTABLE PLANTING REPAIR PRODUCTS

- A. Provide trees and/or plants which are:
 - 1. Of the same species and size of growth to match those being replaced;
 - 2. Well established, containing dense root systems;
 - 3. Exhibiting vigorous, healthy root growth;
 - 4. Free of grubs, diseases or injurious insects.
- B. Provide planting bed cover consisting of:
 - 1. Ground mulch chips;
 - 2. Shredded bark.

2.03 VEHICLE & PEDESTRIAN PAVEMENTS

- A. Asphalt pavement:
 - 1. Base course aggregate:
 - a. Crushed limestone (traffic-bond) or crushed concrete, containing no pieces over three-quarter (3/4) inch in greatest dimension, for base courses less than four (4) inches thick.
 - b. Crushed limestone, containing no pieces over one and one-half (1-1/2) inches in greatest dimension, for base courses over four (4) inches thick.
 - 2. Paving asphalt:
 - a. Shall comply with applicable sections of the State Highway Specifications for binder and surface-grade paving asphalt mixes.
 - b. Shall be hot, plant-mixed asphalt paving material; temperature shall be 290-320°F when leaving the plant and 280°F, minimum, at time of placement.
- B. Concrete pavement: Compressive strength shall achieve a minimum of 4000 psi in twenty-eight (28) days. Mix concrete materials in accordance with ASTM C94, to comply with the following:
 - 1. Slump: three (3) inches, plus one (1) inch or minus one-half (1/2) inch.
 - 2. Air entrainment: Maximum five percent (5%) at time of placement.
 - 3. Maximum aggregate size: 3/4 inch.
 - 4. Minimum cement content: 440 lbs./cu. yd.
 - 5. Maximum fly ash content: 100 lbs./cu. yd.
 - 6. Maximum water-to-cementitious material ratio (W/C): 0.55.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine the project site and verify satisfactory conditions for performance of the work.
- B. Notify the Owner and Consultant of pre-existing defects or conditions which may interfere with the requirements of this section. Absence of notice will constitute the Contractor's acceptance of the site.
- C. Verify existence and location of underground utilities, water and gas lines, fire sprinkler systems, pavement heating devices, and lawn sprinkling systems.

3.02 PREPARATION

- A. Provide protection of existing adjacent trees, plantings, lawns and pavement prior to commencing repairs.
- B. Lawn replacement areas:
 - 1. Fill ruts and depressions with topsoil. Work the soil to a depth of not less than three (3) inches with a rototiller.
 - 2. Remove stones, debris, and foreign objects larger than one (1) inch in diameter from the lawn repair area prior to sodding.
 - 3. Grade the repair area, thoroughly remove ridges and depressions, and make area a smooth, continuous, firm plane that ensures proper drainage.
- C. Planting replacement areas:
 - 1. Remove existing damaged trees, plants or ground cover. Remove large root systems, stones, debris, of foreign objects larger than one (1) inch in diameter from the area prior to installation of new plantings.
 - 2. Remove the topsoil, to a depth of not less than three (3) inches, from an area not less than three (3) times the width of the root ball of the new planting.
 - 3. Dig a hole in the center of the prepared area:
 - a. For a one (1) gallon plant container, twelve (12) inches wide and deep.
 - b. For a five (5) gallon plant container, twenty (20) inches wide and deep.
 - c. For a fifteen (15) gallon plant container, thirty (30) inches wide and deep.
 - d. For larger trees, 1-1/2 times the root ball diameter wide and deep.

3.03 LAWN REPLACEMENT - SODDING

- A. When preparations are complete, install sod:
 - 1. Fit sod pieces tightly together so that no joint is visible, with alternate courses staggered. Compact sod to eliminate all air pockets, provide a true and even surface, and ensure knitting without displacement of sod or deformation of the surface of sodded areas.
 - 2. Fill cracks between sod pieces with screened topsoil following compaction.
 - 3. Excess soil shall be worked into the grass surface.
 - 4. Bury edges of sod pieces flush with adjacent soil.
 - 5. After the sod has been placed, water with a fine spray until the soil is saturated to a depth of two (2) inches.
 - 6. Make arrangements to keep the sod moist until it is rooted into place.

3.04 TREE, PLANT AND GROUND COVER REPLACEMENT

- A. When preparations are complete, install planting:
 - 1. Fill the bottom of the hole with a backfill mixture, consisting of three (3) parts soil (removed from the hole) and one (1) part soil amendment, to support the root ball so that the top of the ball is just above or equal to the existing grade for drainage.
 - 2. Place the root ball of the planting into the hole and adjust for height and position of the planting. Work excess soil to the sides for support of the root ball.
 - 3. Fill the remaining area of the hole with backfill mixture around the root ball; tamp firmly to eliminate all air pockets. When the hole is 2/3 full, thoroughly water the plant to saturate the soil.
 - 4. Fill the remainder of the area with topsoil and tamp into place until the surface is slightly sloping to the edge of the surrounding area.
 - 5. Remove excess soil from the area.
 - 6. Stake trees over four (4) feet high with a minimum of two (2) stakes and ties. Drive stakes a minimum of twelve (12) inches deep; provide protection for trunk at tree-tie location.
 - 7. Apply the specified planting bed cover to a minimum depth of two (2) inches, evenly spread over the entire area.
 - 8. Water with a fine spray to ensure that the soil is thoroughly saturated.

9. Make arrangements to water the planting regularly until it is rooted into place.

3.05 PAVEMENT REPLACEMENT

- A. Removal and subgrade preparation:
 1. Remove damaged areas of paving, as well as areas of unsound pavement and areas heavily stained with grease and oil.
 2. Cut edges to a straight, vertical edge of 1/2-inch or more, by means of mechanical sawing. Excavate a minimum of six (6) inches below the existing, surrounding pavement surface, or as necessary to reach sound base material.
 3. Provide new aggregate subbase as required to fill within three (3) inches of existing, surrounding asphalt pavement surface or to within four (4) or six (6) inches of existing, surrounding concrete pavement surface, depending on slab thickness. Compact aggregate subbase to 95% density.
- B. Asphalt paving replacement:
 1. Place the new asphalt paving material in two lifts, matching existing pavement thickness.
 2. Spread material in a manner which requires minimal handling.
 3. After the material is placed, to proper depth, roll until the surface is hard, smooth, unyielding, and true to the specified thickness and elevation of the existing, surrounding asphalt pavement.
 4. Roll surface layer in at least two directions until no roller marks are visible.
 5. Finish paving surface shall be free from "birdbaths," with no variations of more than 1/8-inch in six (6) feet.
 6. Seal the interface of the existing pavement with hot rubberized crack filler to prevent water infiltration.
- C. Concrete paving replacement:
 1. Place wooden forms where necessary, staked into the ground, to provide straight and true edges for new pavement.
 2. Dampen the subgrade material before placing concrete.
 3. Pour concrete over the prepared subgrade. Tamp the freshly-placed concrete, using a heavy tamper, until at least 3/8-inch of mortar is brought to the surface.
 4. Trowel surface and screed with a straightedge until depressions and irregularities are worked out and the surface is true to specified thickness and elevation of the existing, surrounding concrete pavement.
 5. Float surface to a compact, smooth surface.
 6. When concrete has set sufficiently, provide a non-slip, "broomed" surface finish.

END OF SECTION

SECTION 07310

ASPHALT SHINGLE ROOFING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section Includes:
 1. Asphalt roofing shingles.
 2. Leak barrier and roof deck protection.

1.03 SUBMITTALS

- A. Submit copies of product data sheets and samples for each type of roofing product.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Provide all primary roofing products, including shingles, underlayment, and leak barrier, from a single manufacturer.
- B. Installer Qualifications: Installer must be approved for installation of all roofing products to be installed under this section.

1.05 REGULATORY REQUIREMENTS

- A. Install all roofing products in accordance with all federal, state and local building codes.
- B. All work shall be performed in a manner consistent with current OSHA guidelines.

1.06 PREINSTALLATION CONFERENCE

- A. Prior to scheduled commencement of the roofing installation and associated work, conduct a meeting at the project site with the installer, Consultant, Owner, Contractor and any other persons directly involved with the performance of the work. The installer shall record conference discussions to include decisions, agreements and open issues and furnish copies of recorded discussions to each attending party. The primary purpose of the meeting is to review foreseeable methods and procedures related to roofing work.
 1. Meet with Owner, Consultant, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, and installers whose work interfaces with or affects roofing including installers of roof accessories and roof-mounted equipment.
 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
 5. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
 6. Review governing regulations and requirements for insurance and certificates if applicable.

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

1.07 SEQUENCING AND SCHEDULING

- A. Preparation work shall be limited to those areas that can be covered with the complete roof system on same day or before arrival of inclement weather.
- B. Arrange work sequence to avoid use of newly completed roofing for storage, walking surface, or equipment traffic. Move equipment and material storage areas as work progresses.
- C. Repair any and all traffic-induced damage to the roof system the same day as the damage occurs.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Store all products in manufacturer's unopened, labeled packaging until they are ready for installation.
- B. Store products in a covered, ventilated area, at temperature not more than 110 degrees F (43 degrees C); do not store near steam pipes, radiators, or in direct sunlight.
- C. Store bundles on a flat surface. Maximum stacking height shall not exceed manufacturer's recommendations. Store all rolls on end.
- D. Store and dispose of solvent-based materials in accordance with all federal, state and local regulations.

1.09 WEATHER CONDITIONS

- A. Proceed with work only when existing and forecasted weather conditions will permit work to be performed in accordance with manufacturer's recommendations.

1.10 WARRANTY

- A. Installer shall provide a 2 year labor and materials warranty.
- B. Manufacturer shall provide, at minimum, a 30 year limited materials warranty.

PART 2 - MATERIALS

2.01 ACCEPTABLE MANUFACTURERS

- A. CertainTeed Corporation, Valley Forge, PA.
- B. GAF Materials Corporation, Wayne, NJ.
- C. Owens-Corning, Toledo, OH.

2.02 ASPHALT SHINGLES

- A. Asphalt shingles, Self sealing, granule surfaced, asphalt shingle with a fiberglass reinforced core. Architectural laminate stylings, providing a wood shake appearance.
 1. Acceptable Products:
 - a. Landmark, (by CertainTeed, above).
 - b. Timberline HD, (by GAF, above).

- c. Oakridge or Duration (by Owens-Corning, above).
- B. Color: As selected from manufacturers' full range.
- C. High profile self-sealing hip and ridge cap shingle matching the color and type of selected roof shingle.
- D. In addition to materials required to complete the project, provide four (4) bundles of matching shingles for the Owner's use; store where directed by the Owner.

2.03 FASTENERS

- A. Standard round wire, zinc-coated steel or aluminum; 10 to 12 gauge, smooth, barbed or deformed shank, with heads 3/8 inch (9mm) to 7/16 inch (11mm) in diameter. Length must be sufficient to penetrate into solid wood at least 3/4 inch (19mm) or through plywood or oriented strand board by at least 1/8 inch (3.18mm). **Note: Staples or needle-point nails are not acceptable for attaching the shingles; however, staples may be used for attaching the underlayment felt.**

2.04 STARTER STRIP

- A. Self-sealing starter shingle designed for the specified roof shingles as provided by shingle manufacturer.

2.05 LEAK BARRIER

- A. Self-adhering, self-sealing, bituminous leak barrier surfaced with fine, skid-resistant granules as provided by shingle manufacturer.

2.06 BITUMINOUS MATERIALS

- A. Plastic roof cement: asphalt based, non-asbestos conforming to ASTM D4586, Type II.

2.07 SHINGLE UNDERLAYMENT

- A. Premium, water repellent, synthetic, breather type non-asphaltic underlayment. UV stabilized polypropylene construction. Meets or exceed ASTM D226 and D4869.

2.08 SHEET METAL FLASHING

- A. See Section 07620 "Sheet Metal Flashing and Trim".

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until the roof deck has been properly prepared.
 - 1. If roof deck preparation is the responsibility of another installer, notify the Consultant of unsatisfactory preparation before proceeding.
- B. Remove all existing roofing down to the roof deck.
 - 1. Verify that the deck is dry, sound, clean and smooth. It shall be free of any depressions, waves, and projections. Replace damaged deck with new materials.
 - 2. Clean deck surfaces thoroughly prior to installation of eaves protection membrane and underlayment.
 - 3. At areas that receive eaves protection membrane, fill knotholes and cracks with latex filler.

3.02 PROTECTION

- A. Protect installed products from foot traffic until completion of the project.
 - 1. Any roof areas that are not completed by the end of the workday are to be protected from moisture and contaminants.

3.03 INSTALLATION OF UNDERLAYMENTS

- A. General:
 - 1. Install using methods recommended by shingle manufacturer, in accordance with local building codes. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.
- B. Eaves:
 - 1. Install two (2) courses of leak barrier up the slope from eaves edge, or at least 24 inches (610 mm) beyond the interior "warm wall line". Lap sides 3 inches. Lap ends 6 inches.
- C. Rake Edges:
 - 1. Install leak barrier protection membrane along rake edge to extend 18 inches (304mm), minimum, from rake edge out on the roof sheathing, in shingle fashion. Lap ends 6 inches (152mm) and bond.
 - 2. Install shingle underlayment.
- D. Valleys:
 - 1. Install a 36" wide sheet of leak barrier centered in the valley, as shown in Construction Drawings. Lap ends 6 inches (152mm) and seal.
 - 2. Install metal flashing over leak barrier before shingle underlayment is installed.
 - 3. Install shingle underlayment overlapping onto valley metal a minimum of 6 inches.
- E. Roof Deck:
 - 1. Install one layer of shingle underlayment protection over the entire area. Install sheets horizontally in shingle fashion, so water sheds, and nail in place.
 - a. Install per manufacturer's written instructions.

3.04 INSTALLATION OF SHINGLES.

- A. General:
 - 1. Install shingles in accordance with manufacturers printed instructions and local building codes. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.
 - 2. Minimize breakage of shingles by avoiding dropping bundles on edge, by separating shingles carefully (not by "breaking" over ridge or bundles), and by taking extra precautions in temperatures below 40 degrees F (4 degrees C).
 - 3. Handle carefully in hot weather to avoid scuffing the surfacing, or damaging the shingle edges.
 - 4. Starter strips and shingles shall overhang drip edge ½-inch along eaves and rake edges.
- B. Placement and Nailing:
 - 1. For maximum wind resistance along rakes & eaves, install starter strip containing sealant.
 - 2. Secure with **6 nails** per shingle.
 - a. Placement of nails varies based on the type of shingle specified. Consult the shingle manufacturer's application instructions for the specified shingle for details.
 - 3. Nails must be driven flush with the shingle surface. Do not overdrive or under drive the nails.
 - 4. Shingle offset varies based on the type of shingle specified. Consult the shingle manufacturer's application instructions for the specified shingle for details.

5. Ridge: Hand nail with two (2) 1-1/2" galvanized roofing nails per shingle.
- C. At valleys
1. Install shingles at valleys using the "open valley" method:
 - a. Snap diverging chalk lines on the metal flashing, starting at 2 inches (50 mm) each side of top of valley.
 - b. Run shingles to chalk line.
 - c. Trim last shingle in each course to match the chalk line; do not trim shingles to less than 12 inches (305mm) wide.
 - d. Trim 2 inches (50 mm) diagonally from the upper corner of valley shingles
 - e. Apply a 2 inch (50 mm) wide strip of plastic cement under ends of shingles, sealing them to metal flashing.
- D. At ridges and hips
1. Install with exposure matching field shingles.
 2. Fasten each prefabricated ridge shingle on each side above exposure line and 1 inch (25 mm) from edge.
- E. At penetrations
1. All Penetrations are to be flashed according to shingle manufacturer's printed instructions and Construction Drawings.

3.05 ADJUSTING & CLEANING

- A. Repair of deficiencies:
1. Installation or details noted as deficient during Final Review must be repaired and corrected by Contractor, and made ready for review, within five (5) working days.
- B. Clean-up:
1. Immediately upon job completion, roof membrane and flashing surfaces shall be cleaned of all debris.

END OF SECTION

SECTION 07531

ADHERED ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes requirements for replacement of Roof Area 3:
 - 1. Adhered EPDM membrane roofing system.
 - 2. Roof insulation flat and tapered.
 - 3. Cover board
 - 4. Flashings.

1.03 DEFINITIONS

- A. Roofing Terminology: See ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definitions of terms related to roofing work in this Section

1.04 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane roofing manufacturer based on testing and field experience.

1.05 SUBMITTALS

- A. Product Data: For each type of product indicated including sheet membrane, elastic flashing, joint cover sheet, and joint and temperature range for application of membrane insulation, surfacing and fasteners.
- B. Qualification Data: For qualified Installer and manufacturer.
- C. Manufacturer Certificate: Signed by roofing manufacturer certifying that membrane roofing system complies with requirements specified in Section 01700 "Contract Closeout and Warranties".
- D. Manufacturer's Instructions: Inspection, preparation and installation instructions.
- E. Warranties: Sample of warranty(s).

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is UL listed for membrane roofing system identical to that used for this Project.
 - 1. Company specializing in manufacturing the products specified in this section with minimum 10 years' documented experience.

- B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by membrane roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's warranty.
 - 1. Company specializing in performing the work of this section with a minimum 10 years' experience.
- C. Perform work in accordance with NRCA Roofing and Waterproofing Manual and manufacturer's printed instructions.
 - 1. Maintain 1 copy on site.
- D. Source Limitations: Obtain all primary components including roof insulation, fasteners, from same manufacturer as membrane roofing or approved by membrane roofing manufacturer.
- E. Pre-installation Roofing Conference: Conduct conference at Project site.
 - 1. Meet with Owner, Consultant, Owner's insurer if applicable, testing and inspecting agency representative, roofing installer, roofing system manufacturer's representative, deck. Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 - 3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
 - 5. Review structural loading limitations of roof deck during and after roofing.
 - 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
 - 7. Review governing regulations and requirements for insurance and certificates if applicable.
 - 8. Review temporary protection requirements for roofing system during and after installation.
 - 9. Review roof observation and repair procedures after roofing installation.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer.
 - 1. Protect stored liquid material from direct sunlight.
 - 2. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.08 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions

and warranty requirements.

- B. Coordination: Coordinate the work with installation of associated counter flashings installed by other sections as the work of this section proceeds.

1.09 FIELD CONDITIONS

- A. Field verify locations and dimensions of items critical to the design, fit or assembly of the work of this section. Complete field dimension prior to fabrication of components. Verify field measurements are as indicated in shop drawings.

1.10 WARRANTY

- A. Special Warranty: Manufacturer's standard or customized form, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period.
 - 1. Special warranty includes membrane roofing, base flashings, roof insulation, fasteners, cover boards, substrate board, roofing accessories, and other components of membrane roofing system, including workmanship of installation.
 - 2. Warranty Period: Ten (10) years from date of Substantial Completion.
- B. Special Project Warranty: Submit roofing installer's warranty, on warranty form at end of this Section, signed by Installer, covering Work of this Section, including all components of membrane roofing system such as membrane roofing, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, roof pavers, and walkway products, for the following warranty period:
 - 1. Warranty Period: Two (2) Years from date of Substantial Completion.
 - 2. Correct work within a two year period after the Date of Substantial Completion.

PART 2 - PRODUCTS

2.01 EPDM MEMBRANE ROOFING

- A. EPDM: ASTM D 4637, Type I, non-reinforced, uniform, flexible EPDM sheet.
 - 1. Acceptable manufacturers:
 - a. Firestone Building Products
 - b. Carlisle SynTec Incorporated.
 - 2. Thickness: 60 mils nominal.
 - 3. Type: Low Slope Fire Retardant
 - 4. Exposed Face Color: Black.

2.02 AUXILIARY MEMBRANE ROOFING MATERIALS

- A. General: Auxiliary membrane roofing materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.
 - 1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction or building owner's preference.
 - 2. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - a. Plastic Foam Adhesives: 50 g/L.
 - b. Gypsum Board and Panel Adhesives: 50 g/L.
 - c. Multipurpose Construction Adhesives: 70 g/L.
 - d. Fiberglass Adhesives: 80 g/L.
 - e. Contact Adhesive: 80 g/L.
 - f. Single-Ply Roof Membrane Sealants: 450 g/L.
 - g. Nonmembrane Roof Sealants: 300 g/L.
 - h. Sealant Primers for Nonporous Substrates: 250 g/L.

- i. Sealant Primers for Porous Substrates: 775 g/L.
- j. Other Adhesives and Sealants: 250 g/L.
- B. Sheet Flashing: 60-mil thick EPDM, partially cured or cured, according to application.
- C. Bonding Adhesive: Manufacturer's standard, solvent or water based as required by Owner.
- D. Seaming Material: Manufacturer's standard, synthetic-rubber polymer primer and 3-inch- (75-mm-) wide minimum, butyl splice tape with release film.
- E. Lap Sealant: Manufacturer's standard, single-component sealant, colored to match membrane roofing.
- F. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.
- G. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.
- H. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, reinforced EPDM securement strips, "T-joint" covers, in-seam sealants, termination reglets, cover strips, and other accessories.

2.03 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured or approved by EPDM membrane roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated.
- B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces.
 - 1. Roof Area 3 tapered insulation system: Provide factory-tapered insulation boards fabricated to slope of 1/4 inch per foot, with a 1.5" starting thickness.
- C. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain.

2.04 COVER BOARD

- A. 1/4" DensDeck thermal barrier, by Georgia-Pacific Gypsum LLC

2.05 INSULATION AND COVER BOARD ACCESSORIES

- A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with membrane roofing.
- B. Fasteners and insulation plates, provided by membrane manufacturer.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
 - 1. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.
 - 2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and those nailers match thicknesses of insulation.

3. Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Division 5 Section "Steel Deck."
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.03 INSULATION AND COVER BOARD INSTALLATION

- A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with membrane roofing system and insulation manufacturer's written instructions for installing roof insulation.
- C. Install insulation under area of roofing to achieve required thickness/taper. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards.
 1. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
- D. Install cover board over completed insulation, with joints of cover board staggered from joints of previous insulation layer a minimum of 6 inches (150 mm) in each direction.
- E. Trim surface of insulation where necessary at scupper so completed surface is flush and does not restrict flow of water.
- F. Fasten insulation and cover board to the roof deck to resist uplift pressure at corners, perimeters and field of roof according to membrane roofing system manufacturer's written instructions, but no less than 1 fastener/plate every 2 square feet.

3.04 ADHERED MEMBRANE ROOFING INSTALLATION

- A. Place membrane without stretching over the acceptable substrate, and allow to relax a minimum of 30 minutes before bonding.
- B. Start installation of membrane roofing in presence of roofing system manufacturer's technical personnel.
- C. Accurately align membrane roofing, without stretching, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. After making sure the sheet is placed in its final position, fold it back evenly onto itself so as to expose the underside. (Note: The sheet fold should lay smooth so as to minimize the formation of wrinkles during and after installation.)

- E. Sweep the mating surface of the membrane with a stiff broom to remove excess dusting agent (if any) or other contaminants from the mating surface.
- F. Apply bonding adhesive at about the same time to both the exposed underside of the sheet and the substrate to which it will be adhered so as to allow approximately the same drying time. Apply bonding adhesive evenly so as to avoid globs.
- G. Apply bonding adhesive and roll the adhesive on to the mating surfaces or spray on bonding adhesive and then roll out with a solvent resistant paint roller.
- H. Care must be taken not to apply bonding adhesive over an area that is to be later cleaned and spliced to another sheet or flashing.
- I. Apply bonding adhesive in accordance with manufacturer's specifications. Coverage rate will differ with variance of substrates and climatic conditions.
- J. Allow bonding adhesive to flash off until tacky. Touch the bonding adhesive surface with a clean, dry finger to be certain that the adhesive does not stick or string. As you are touching the adhesive, pushing straight down to check for stringing, also push forward on the adhesive at an angle to ensure that the adhesive is ready throughout its thickness. If either motion exposes wet or stringy adhesive when the finger is lifted, then it is not ready for mating. Flash off times will vary depending on ambient air conditions.
- K. Starting at the fold, roll the previously coated portion of the sheet into the coated substrate slowly and evenly so as to minimize wrinkles.
- L. To ensure proper contact, compress the bonded half of the sheet to the substrate with a stiff push broom.
- M. Fold the unadhered half of the membrane sheet back onto itself, and repeat the bonding procedure to complete the bonding of the sheet.
- N. Apply membrane roofing with side laps shingled with slope of deck where possible.
- O. Seam Installation (Tape): Clean both faces of splice areas, apply splice primer as required, and firmly roll side and end laps of overlapping membrane roofing according to manufacturer's written instructions to ensure a watertight seam installation.
- P. Repair tears, voids, and lapped seams in roofing that does not comply with requirements.

3.05 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean splice areas, apply splicing cement, and firmly roll side and end laps of overlapping sheets to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.06 FIELD QUALITY CONTROL

- A. Testing: Owner may engage a qualified independent testing agency to perform inspections.
- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
- C. Repair or remove and replace components of membrane roofing system where inspections indicate that they do not comply with specified requirements.
- D. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.07 PROTECTION AND CLEANING

- A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Consultant and Owner.
- B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements, repair substrates and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.08 ROOFING INSTALLER'S WARRANTY

- A. WHEREAS <Insert name> of <Insert address>, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:
 - 1. Owner: <Insert name of Owner.>
 - 2. Address: <Insert address.>
 - 3. Building Name/Type: <Insert information.>
 - 4. Address: <Insert address.>
 - 5. Area of Work: <Insert information.>
 - 6. Acceptance Date: <Insert date.>
 - 7. Warranty Period: Two (2) Years.
 - 8. Expiration Date: <Insert date.>
- B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,
- C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.
- D. This Warranty is made subject to the following terms and conditions:
 - 1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
 - a. Lightning;
 - b. Peak gust wind speed exceeding 55 mph;
 - c. Fire;
 - d. Failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;

- e. Faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
 - f. Vapor condensation on bottom of roofing; and
 - g. Activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
 3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
 4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
 5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
 6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
 7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.
- E. IN WITNESS THEREOF, this instrument has been duly executed this <Insert day> day of <Insert month>, <Insert year>.
1. Authorized Signature: <Insert signature>
 2. Printed Name: <Insert name>
 3. Title:
 4. Date of Signature

END OF SECTION

SECTION 07620

SHEET METAL FLASHING AND TRIM

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section

1.02 SUMMARY

- A. Section Includes:
 - 1. Formed sheet metal roof flashing and trim (low-slope and steep-slope)
 - 2. Sealant for use in conjunction with sheet metal installation

1.03 PERFORMANCE REQUIREMENTS

- A. General: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing, rattling, leaking, and fastener disengagement.
- B. Thermal Movements: Provide sheet metal flashing and trim that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of sheet metal and trim thermal movements. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- C. Water Infiltration: Provide sheet metal flashing and trim that do not allow water infiltration to building interior.

1.04 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Samples for Verification: For each type of exposed finish required, of size indicated below:
 - 1. Trim: 12 inches (300 mm) long. Include fasteners and other exposed accessories.
 - 2. Accessories: Full-size Sample.

1.05 QUALITY ASSURANCE

- A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.
- B. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Section 01200 "Project Meetings."
 - 1. Meet with Owner, Consultant, Owner's insurer if applicable, Installer, and installers whose work interfaces with or affects sheet metal flashing and trim including installers of other building components.
 - 2. Review methods and procedures related to sheet metal flashing and trim.

3. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.
4. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver sheet metal flashing materials and fabrications undamaged. Protect sheet metal flashing and trim materials and fabrications during transportation and handling.
- B. Unload, store, and install sheet metal flashing materials and fabrications in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack materials on platforms or pallets, covered with suitable weathertight and ventilated covering. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage.

1.07 COORDINATION

- A. Coordinate installation of sheet metal flashing and trim with interfacing and adjoining construction to provide a leakproof, secure, and noncorrosive installation.
- B. Where sheet metal flashings are incorporated into other building systems, installation shall commence concurrently with the installation of such building components to prevent delays.
- C. Where sheet metal flashings are designed to provide counter flashing, installation shall commence after the installation of other building components has been completed in accordance with the specifications.

1.08 SEQUENCING AND SCHEDULING

- A. Owner will occupy portions of building immediately adjacent to work area. Conduct activities so Owner's operations will not be disrupted. Provide not less than 48 hours' notice to Owner of activities that will affect Owner's operations.

PART 2 – PRODUCTS

2.01 SHEET METALS

- A. Prefinished galvanized: AISA-G90 Extra Smooth, minimum spangle, tension leveled, hot-dipped galvanized steel conforming to ASTM A653:
 1. Finish shall consist of primer on both sides, minimum 0.25-mil thickness, followed by a 70% Kynar 500® resin premium fluoropolymer (PVDF) coating on one side to achieve a 1.0 mil (+/- 0.1-mil) dry-film thickness.
 - a. Manufacturer's standard color which will be selected by the Owner.
- B. Lead flashings:
 1. Soil stack flashings: four (4) pound sheet lead conforming to ASTM B29, minimum twelve (12) inch square base flange, or as necessary to extend five (5) inches out from stack on all sides.
- C. Termination bar:
 1. Extruded aluminum compression bar, 0.100-inch minimum thickness and 1-1/4 inch width, with caulking cup.

2.02 UNDERLAYMENT MATERIALS/CONCEALED FLASHING

- A. ASTM D 4637, Type I, non-reinforced, uniform, flexible EPDM sheet

2.03 FASTENERS

- A. Unless specified otherwise in the Construction Drawings or elsewhere in the project specifications, sheet metal fasteners shall comply with this section.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads:
 - 1. Exposed Screw Fasteners: Heads matching color of sheet metal by means of plastic caps or factory-applied coating. Use only where concealed fasteners cannot be used.
 - a. Sheet Metal to Sheet Metal: Self Drilling, self-tapping, gasketed #10 Hex Washer Head sheet metal screw. Length as required for application, but no less than three threads pitches into metal.
 - b. Sheet Metal to Wood: Gasketed Hex Washer Head wood screw. Size and length as required for application but no less than #10 size and 1 inch in length.
 - c. Sheet Metal to masonry: Corrosion resistant pre-drilled gasketed masonry screws with hex washer head, minimum 3/16" thickness; length to provide embedment as required by fastener manufacturer.
 - 2. Concealed Screw Fasteners:
 - a. Sheet Metal to Sheet Metal: #10 Self Drilling, self-tapping, Phillips Pan Head sheet metal screw. Length as required for application, but no less than three threads pitches into metal.
 - b. Sheet Metal to Wood: #10 Phillips Pan Head Wood Screw. Size and length as required for application, but no less than #10 size and 1 inch in length.
 - c. Sheet Metal to masonry: Corrosion resistant pre-drilled masonry screws with hex washer head, minimum 3/16" thickness; length to provide embedment as required by fastener manufacturer.
 - 3. Nails: for use where roof edge flashing, cleats, and other flashings are fastened to wood substrate and whose nailing flanges are covered by roof materials or finish metal.
 - a. Standard round wire; minimum 12 gauge shank, smooth, barbed or deformed shank, with heads 3/8 inch (9mm) in diameter.
 - b. Length: 1.25-inches
- C. General fastener requirements (unless otherwise noted):
 - 1. Fastener types for given metal types:
 - a. Galvanized or Prepainted, Metallic-Coated Steel: Use stainless-steel fasteners.
 - b. Aluminum: Use aluminum or stainless-steel fasteners.
 - c. Stainless Steel: Use stainless-steel fasteners.
- D. Blind Fasteners: High-strength aluminum, galvanized or stainless-steel rivets.

2.04 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.
- B. Elastomeric Sealant
 - 1. For all sheet metal-to-stone joints
 - a. Dow Corning 756 silicone sealant
 - 2. All other applications
 - a. Polyurethane, ASTM C 920, Grade NS, Class 25, Type S.
- C. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

2.05 FABRICATION, GENERAL

- A. General:
 - 1. Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.
 - 2. All finish flashings, where applicable, must be fully engaged and continuously crimped onto the underlying cleat.
 - 3. All points where the sheet metal flashing ends or transitions into a different flashing detail shall be flashed with a field-formed sheet metal closure. The use of mastic or excessive caulking shall not be acceptable.
- B. 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.
- C. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
- D. Sealed Joints: Form nonexpanding but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.
- E. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with elastomeric sealant concealed within joints.
- F. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.

2.06 ROOF SHEET METAL FABRICATIONS

- A. Cap Flashing (Roof Area 3):
 - 1. Fabricate in 24-inch sections (to accommodate radiused edge).
 - 2. Dimensions:
 - a. Fabricate to the profile shown in the Construction Drawings.
 - 3. Fabricate from the following material:
 - a. Prefinished Galvanized: 24 gauge; 0.0239 inch (0.607 mm) thick
 - 4. Joint Style:
 - a. Lap 2-inches (50-mm).
 - 1) At lap, notch the bottom hem of one section 2-inches to accommodate the adjacent section.
 - 2) Apply a continuous bead of sealant between lapped sections.
 - 3) Hook the overlying sheet metal flashing onto the adjacent sheet metal flashing section; creating a 2-inch minimum lap.
- B. Counter flashing (Roof Area 3):
 - 1. Fabricate in minimum 96-inch (2400-mm) long, but not exceeding 10-foot (3-m) long, sections.
 - 2. Fabricate to profile shown in the Construction Drawings
 - a. Ensure counter flashing extends 3" minimum down over flashings/components below.
 - b. Overbend to ensure flashings sits tightly against flashings below.
 - 3. Fabricate from the following material:
 - a. Prefinished Galvanized: 24 gauge; 0.0239 inch (0.607 mm) thick
 - 4. Joint Style:
 - a. Lapped joints:
 - 1) Lap sheet metal sections 2-inches, minimum.

- 2) At lap, notch the bottom hem of one section 2-inches to accommodate the adjacent section.
 - 3) Apply a continuous bead of sealant between lapped sections.
 - 4) Hook the overlying sheet metal flashing onto the adjacent sheet metal flashing section; creating a 2-inch minimum lap.
- C. Scuppers (Roof Area 3):
1. Fabricate from the following material:
 - a. Prefinished Galvanized: 24 gauge; 0.0239 inch (0.607 mm) thick
 2. Fabricate to match profile/overhang of existing scupper:
 - a. Rivet and seal all joints to create watertight unit with no open joints.
- D. Valley Flashing (Roof Area 1):
1. Fabricate in minimum 96-inch (2400-mm) long, but not exceeding 10-foot (3-m) long, and 24 inch (600-mm) wide sections with a one inch (25-mm) high splash diverter at center and one-half inch (13-mm) open hems along the perimeter edges.
 2. Fabricate from the following material:
 - a. Prefinished Galvanized: 24 gauge; 0.0239 inch (0.607 mm) thick
 3. Provide 2 inch (50-mm) by 3 inch (75-mm) cleats of same material.
 4. Joint Style for Valley Flashing:
 - a. Lapped joints:
 - 1) Lap sheet metal sections 12 inches, minimum.
 - 2) Install two (2) rows of sealant at lap joints.
 - 3) Lap shall be oriented in the same direction of water run-off.

2.07 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with installer present, to verify actual locations, dimensions and other conditions affecting performance of work:
 1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
 2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system:
 1. Torch cutting of sheet metal flashing and trim is not permitted.

- B. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
- C. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and elastomeric sealant.
- D. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- E. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (600 mm) of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with elastomeric sealant concealed within joints.
- F. Seal joints with elastomeric sealant as required for watertight construction.
 - 1. Where sealant-filled joints are used, embed hooked flanges of joint members not less than 1 inch (25 mm) into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is moderate, between 40 and 70 deg F (4 and 21 deg C), set joint members for 50 percent movement either way. Adjust setting proportionately for installation at higher ambient temperatures. 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 07920 "Joint Sealants."

3.03 FABRICATED ROOF FLASHING INSTALLATION

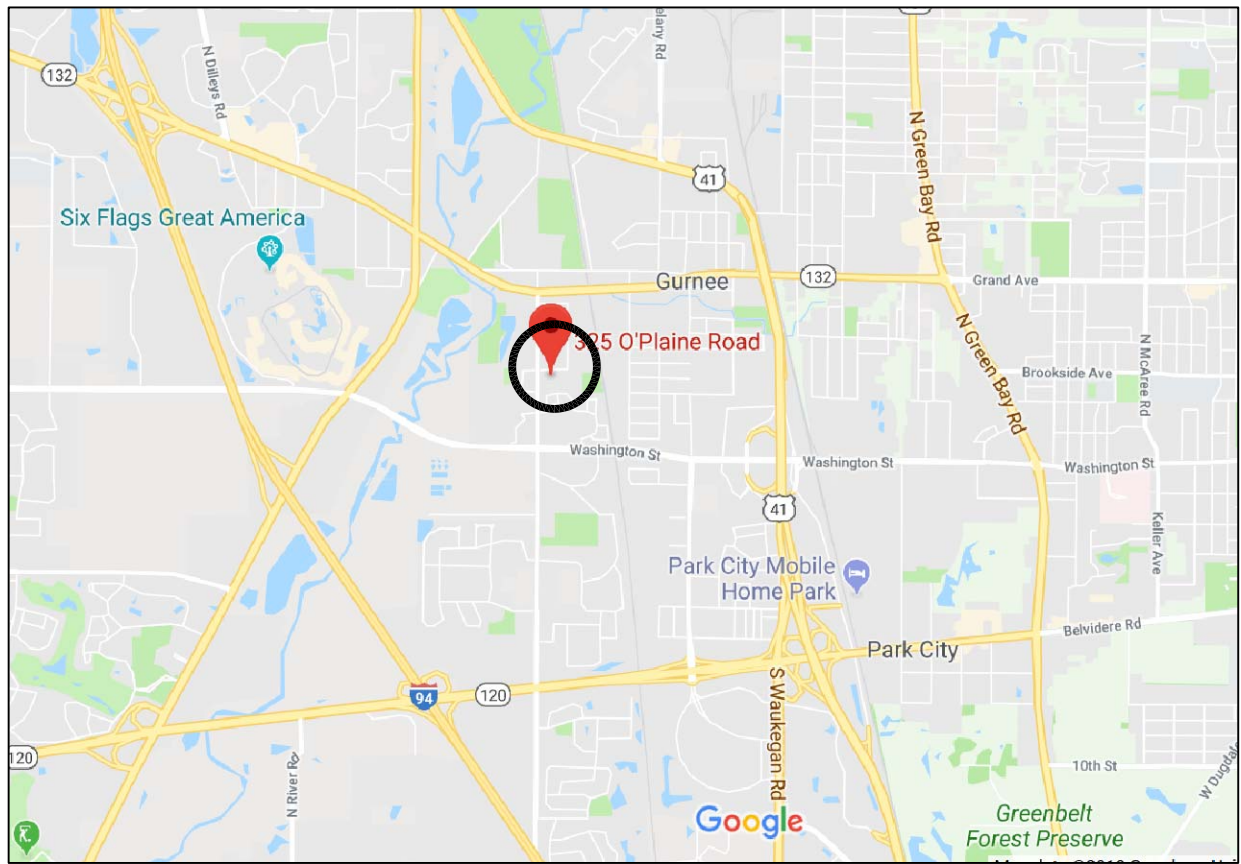
- A. General: Install sheet metal roof flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight.
- B. Cap Flashing (Roof Area 3):
 - 1. Insert external leg into existing reglet in stone coping. Install backer rod and sealant as shown in the Construction Drawings.
 - 2. Anchor both the interior leg and sloped top leg to wood nailer (as shown in the Construction Drawings) at 20-inch centers with color-matched gasketed screws.
- C. Counter Flashing (Roof Area 3): Coordinate installation of counter flashing with installation of flashing below.
 - 1. Surface Mounted:
 - a. Fasten to wall at 12-inches on center with color-matched gasketed screws.
 - b. Waterproof with tooled sealant along caulking cup.
 - 2. Receiver:
 - a. Insert counter flashing in receiver.
 - b. Secure in a waterproof manner by means of sheet metal screws at 12 inches on center.
- D. Scupper
 - 1. Install over roof membrane and flashings, set in water block.
 - 2. Fasten interior flanges to the substrate with appropriate fasteners.
 - 3. Strip-in interior flanges per the requirements of the appropriate roof membrane section.
 - 4. On exterior, seal edges to the exterior wall.
- E. Termination bar:
 - 1. Mechanically fasten 12-inches on center maximum.
 - 2. Leave 1/8-inch space between termination bar sections.

- F. Valley Flashing:
1. Install sheet metal valley flashing over the completed ice dam flashing, before shingle underlayment is installed.
 2. Fasten sheet metal valley flashing to the deck:
 - a. Install cleats on twenty-four (24) inch centers along edges.
 - 1) Hook cleat onto the edge hem of the valley flashing; mallet down flat.
 - 2) Fasten cleat to the roof deck with two nails.
 - 3) Fold over tail of cleat to cover heads of nails; mallet down flat.
 - b. At top of valley flashing section:
 - 1) Fasten to deck with roofing nails on three (3) inch centers.
 - a) At dormers or intersections with adjacent valleys:
 - (1) Hand tool, lap onto adjacent valley section, bed in sealant and rivet together.
 - c. At bottom of valley flashing (eaves):
 - 1) Cut and fold down into gutter, extending 1.5-inches minimum down over back leg of gutter.
 - 2) Cut, seal and close diverter.
- G. Soil Stack Flashing:
1. Coordinate installation of soil stack flashing with installation of roofing and other items penetrating roof.
 2. Set in plastic roof cement.
 3. Turn lead flashing down inside vent piping 2-inches minimum, being careful not to block vent piping with flashing.

3.04 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder and sealants.
- C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain in a clean condition during construction.
- D. 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.
- E. Repair of deficiencies:
1. Installation or details noted as deficient during Final Review must be repaired and corrected by Contractor, and made ready for review, within five (5) working days.

END OF SECTION

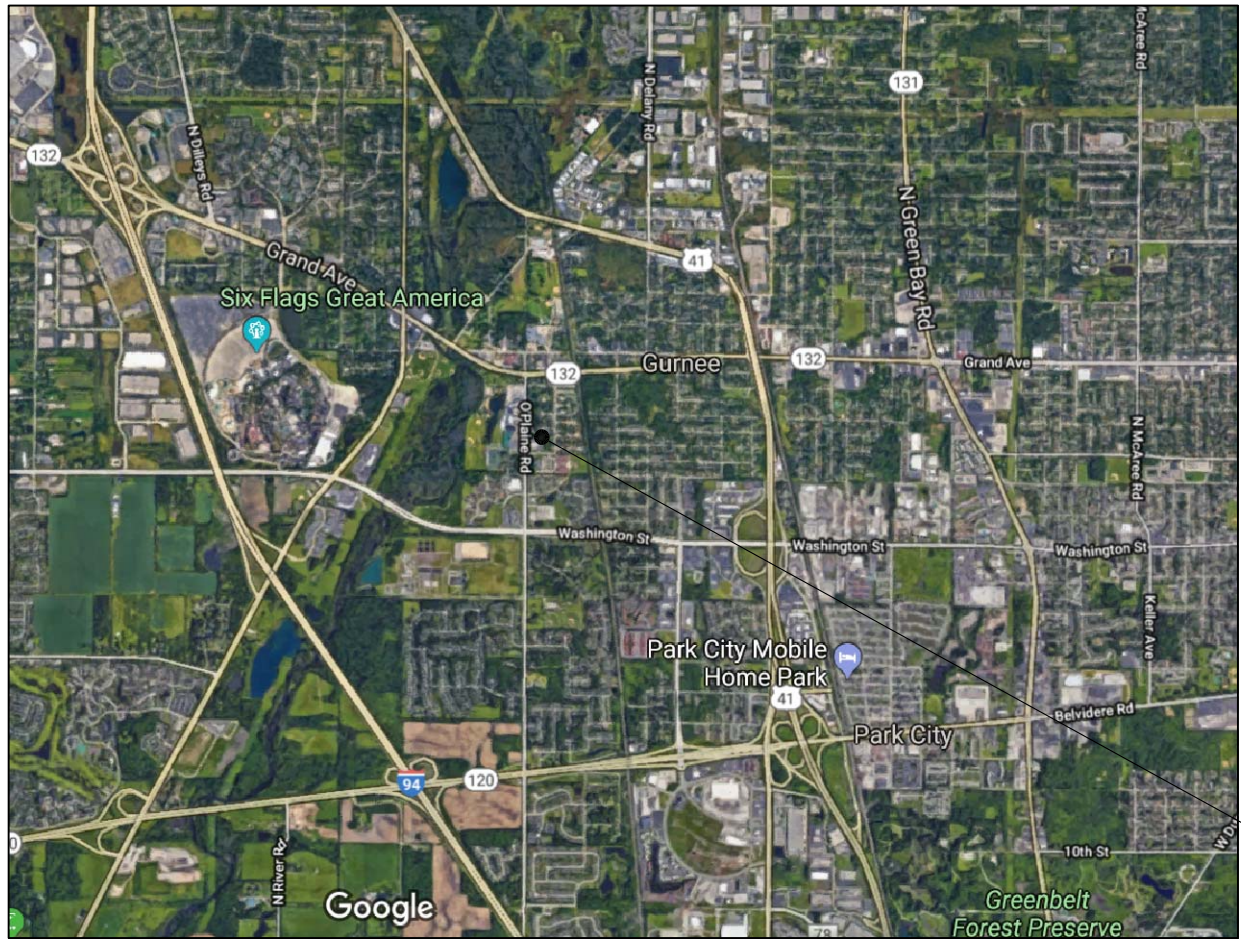


PROJECT: VILLAGE HALL- ROOF REPLACEMENT SPECIFICATIONS
 325 NORTH O'PLAINE ROAD
 GURNEE, IL 60031

OWNER: VILLAGE OF GURNEE
 325 NORTH O'PLAINE ROAD
 GURNEE, IL, 60031

CONSULTANT: INDUSTRIAL ROOFING SERVICES
 13000 WEST SILVER SPRING DRIVE
 BUTLER, WISCONSIN 53007
 (262) 432-0500

IRS JOB #: 16758



325 NORTH O'PLAINE RD, GURNEE, IL

SHEET INDEX

- A0 - COVER SHEET
- A4.0 - ROOF REPLACEMENT SPECIFICATION
- A4.1 - ROOF DETAIL REFERENCE SHEET
- A6.0 - ROOF DETAILS 1-4
- A6.1 - ROOF DETAILS 5-8
- A6.2 - ROOF DETAILS 9-12
- A6.3 - ROOF DETAIL 13
- A7.0 - ROOF TYPICAL DETAILS 1

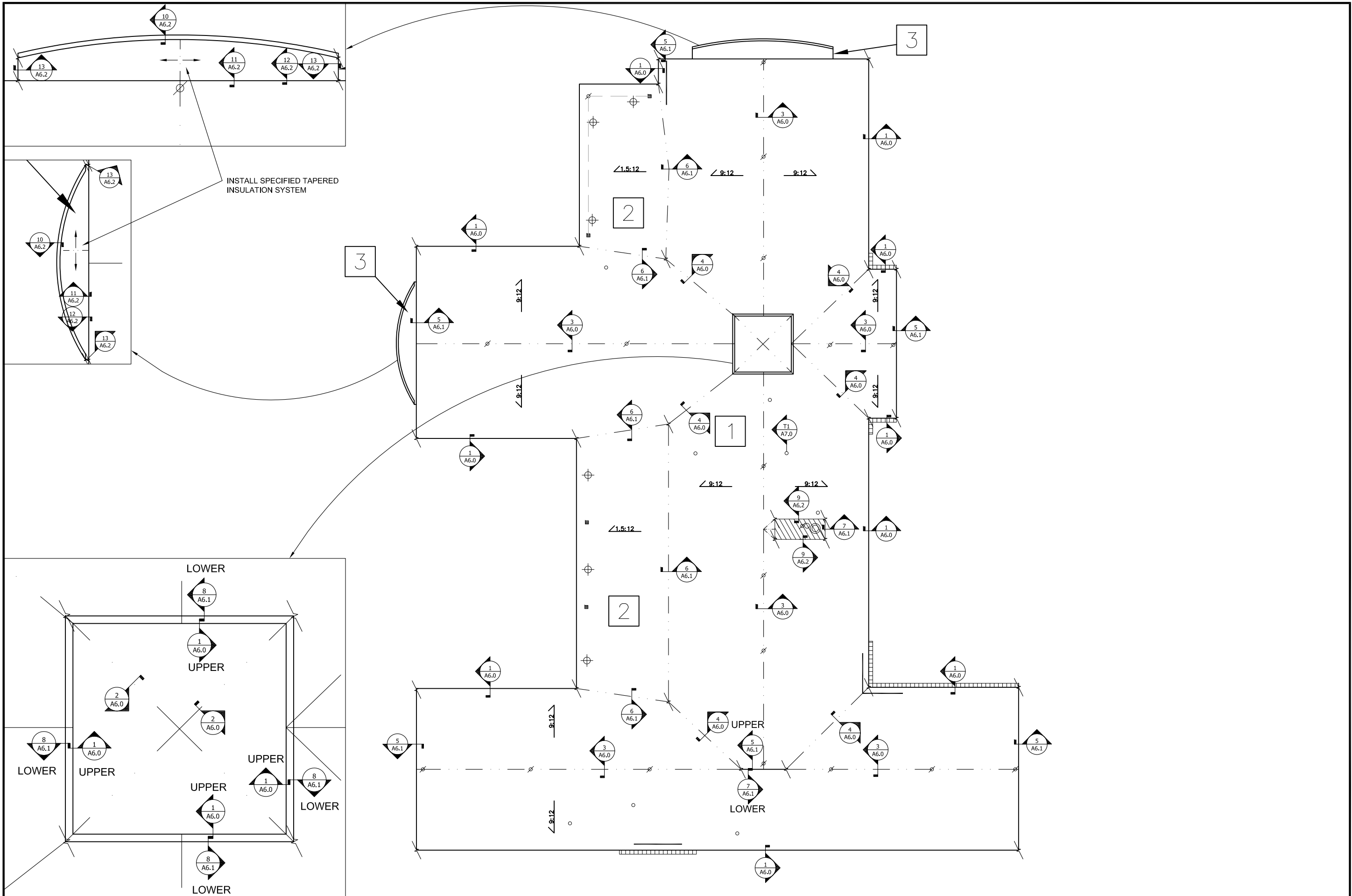
IRS
INDUSTRIAL ROOFING SERVICES, INC.
 13000 WEST SILVER SPRING DRIVE - BUTLER, WI 53007
 PHONE: (800) 236-3477 / (262) 432-0500 FAX: (262) 432-0504

CONSULTANT DOES NOT WARRANT THE ACCURACY OF THE EXISTING CONDITIONS SHOWN ON THIS DRAWING. USER SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO ANY WORK RELATED TO THIS BUILDING.

PROJECT NAME: VILLAGE OF GURNEE VILLAGE HALL
 325 NORTH O'PLAINE RD, GURNEE, IL
TITLE: COVER SHEET

DRAWN BY: DATE: BTS 7/12/2018
SCALE: DRAWING NO.: N.T.S. A0

IRS SPEC NO.: 16758
NOTES: DIMENSIONS ARE FOR BIDDING PURPOSES ONLY. CONTRACTOR IS TO FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING AND INSTALLING PRODUCTS.



IRS
INDUSTRIAL ROOFING SERVICES, INC.
 13000 WEST SILVER SPRING DRIVE - BUTLER, WI 53007
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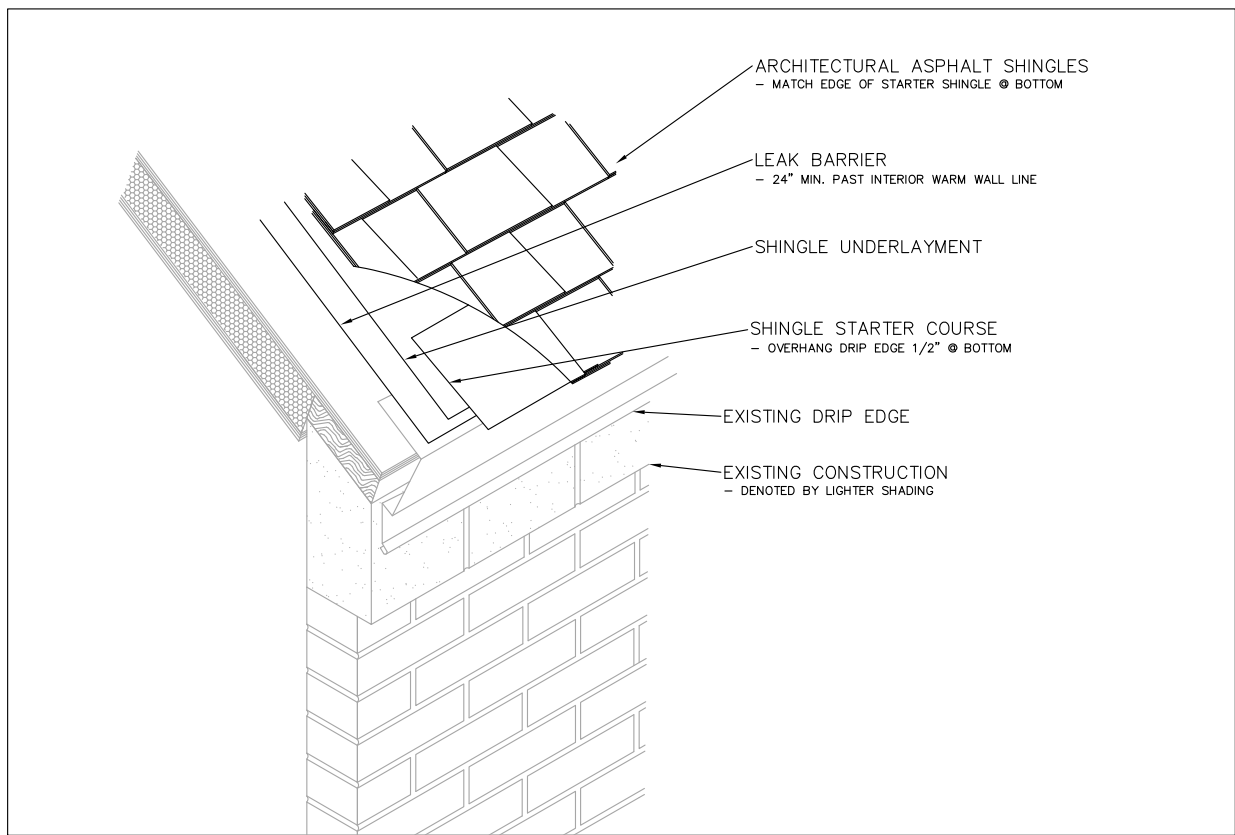
CONSULTANT DOES NOT
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PROJECT NAME: VILLAGE OF GURNEE
 VILLAGE HALL
 325 NORTH O'PLAINE RD, GURNEE, IL
 TITLE: ROOF DETAIL REFERENCE SHEET

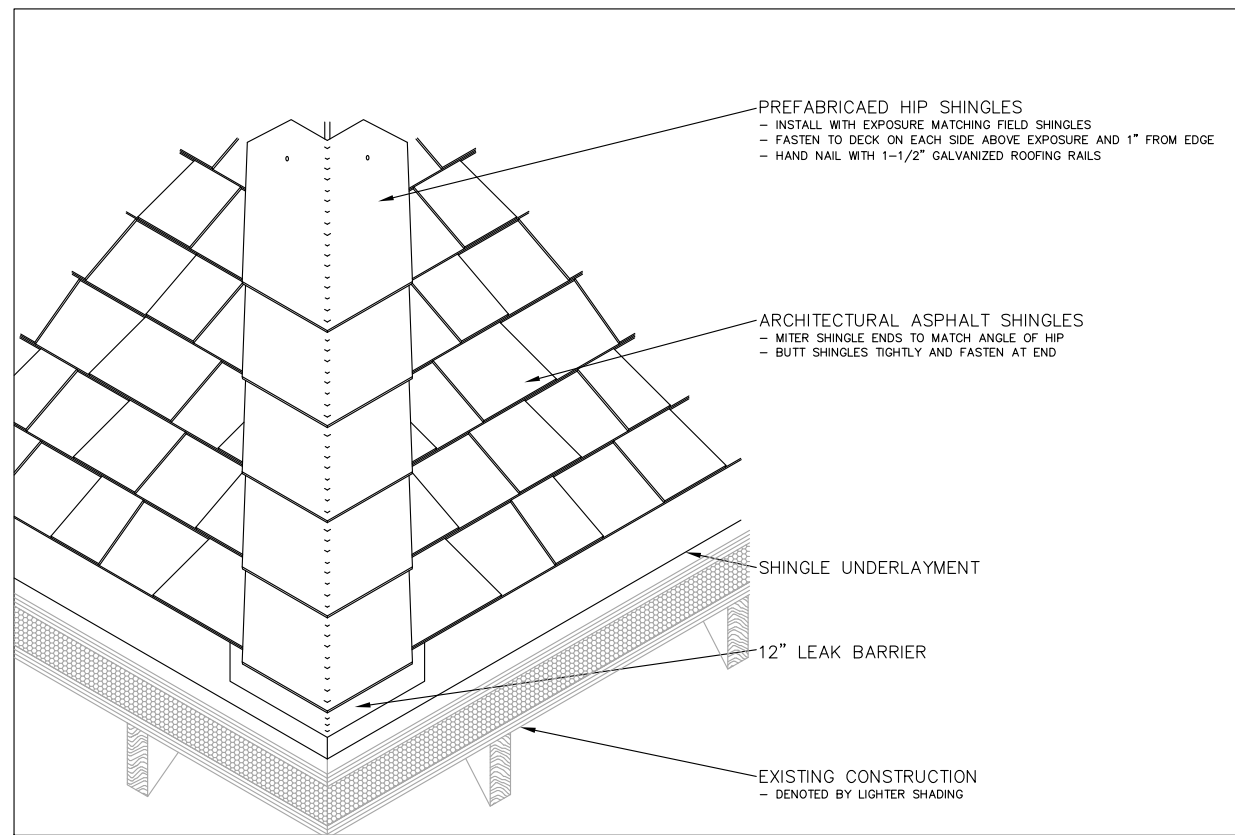
DRAWN BY: DATE: BTS 7/12/2018
 SCALE: DRAWING NO.: N.T.S. A4.1

IRS SPEC NO.: 16758
 NORTH ARROW:
 KEY:
 - ROOF DRAIN
 - THROUGH-WALL SCUPPER
 - ROOF EDGE SCUPPER
 - CURBED OPENING
 - ROOF SCUTTLE
 - SKYLIGHT
 - CURBED PIPE VENT
 - UNUSED
 - CHIMNEY
 - ROOF LADDER
 - PIPE VENT
 - SOIL STACK
 - PIPE PENETRATION
 - PITCH PAN
 - EXPANSION JOINT
 - SLOPE TRANSITION
 - SCREEN WALL

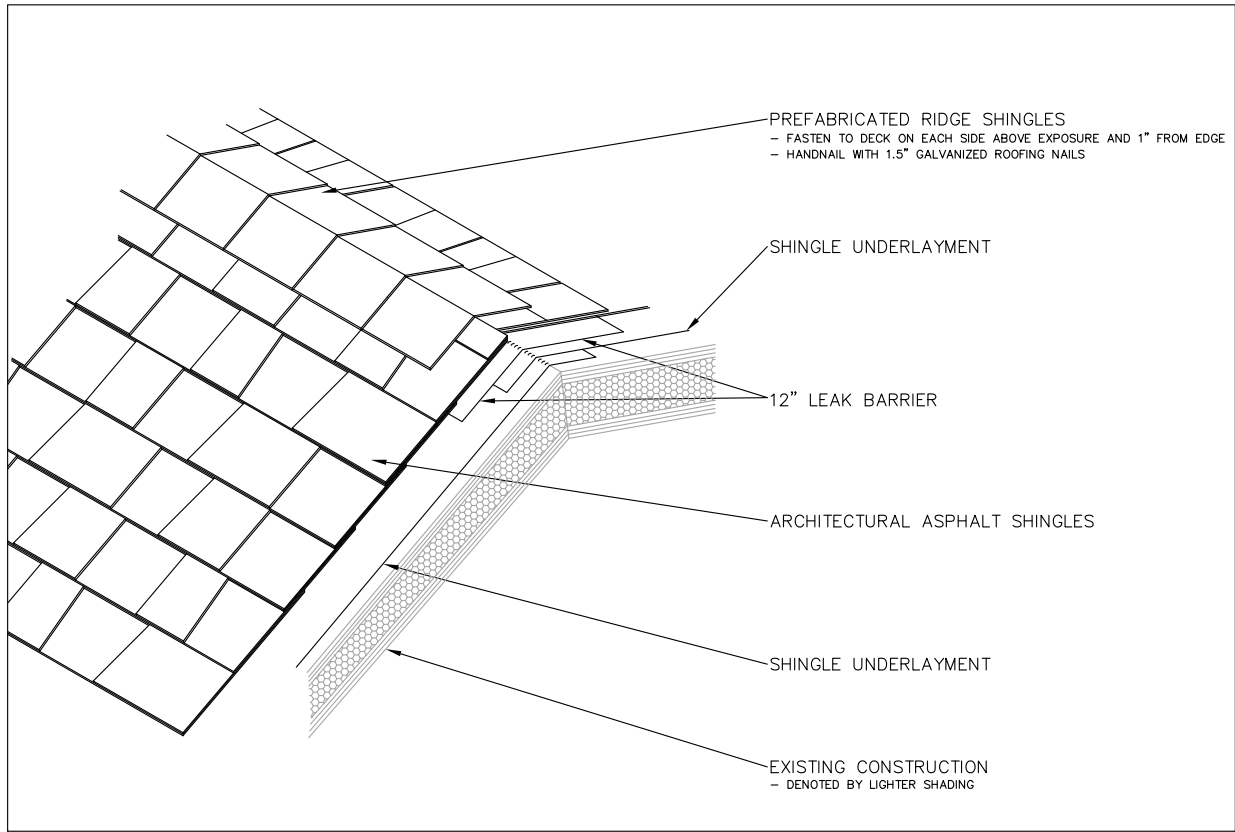
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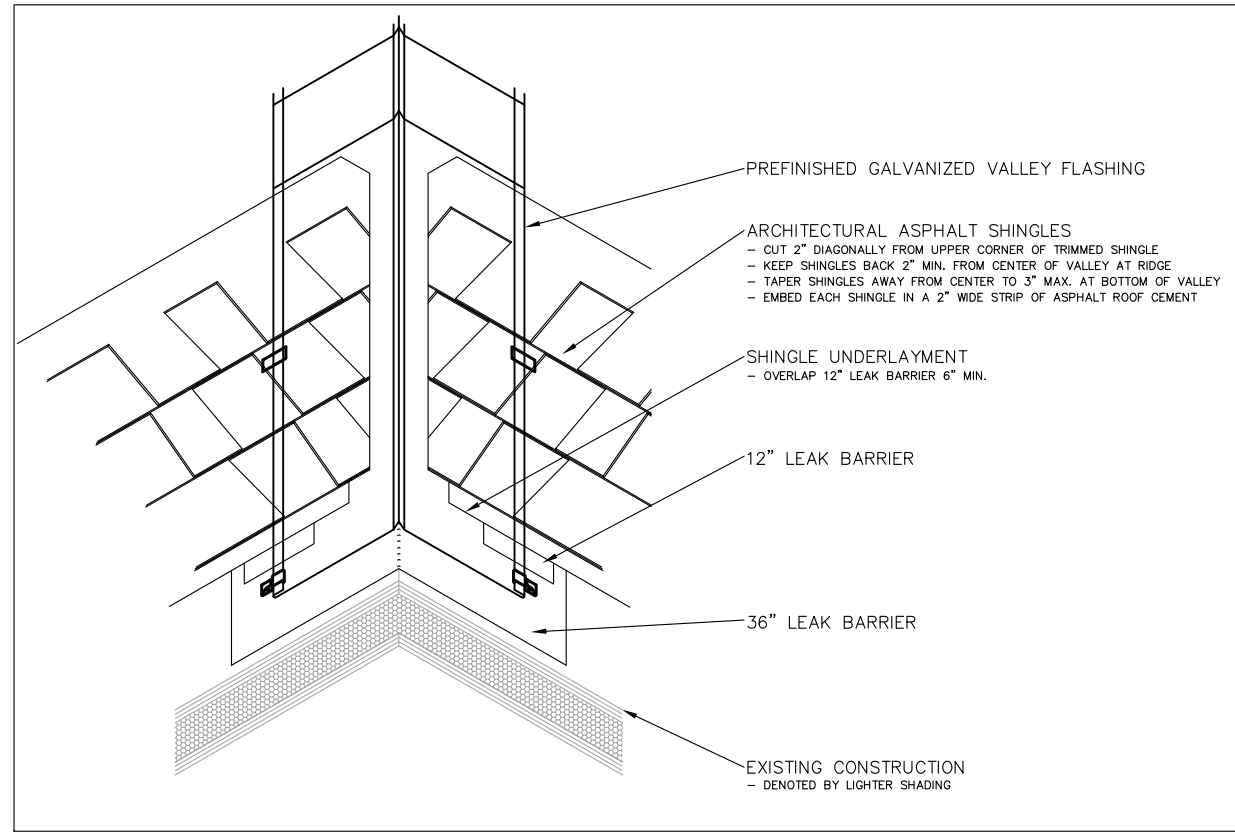
DETAIL 1: EAVE
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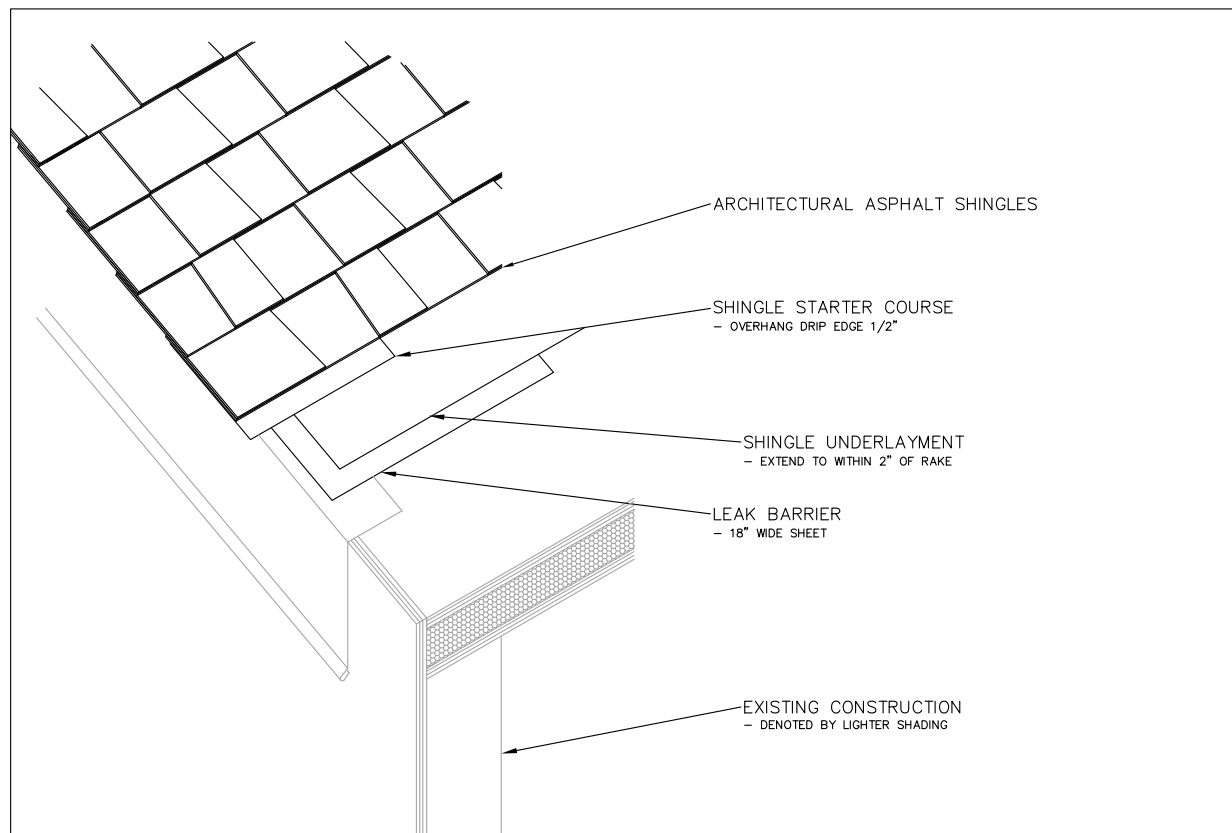
DETAIL 2: HIP SHINGLES
NOT TO SCALE



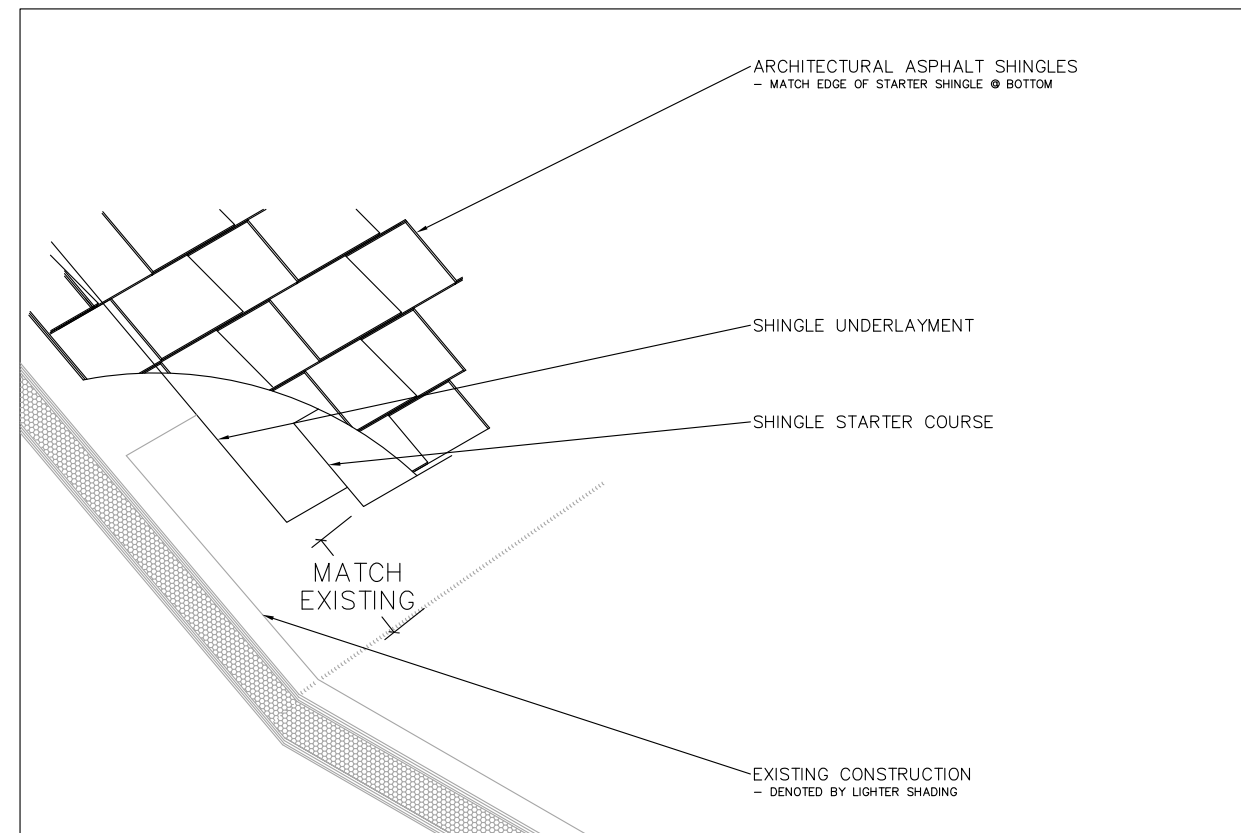
DETAIL 3: CONVENTIONAL RIDGE
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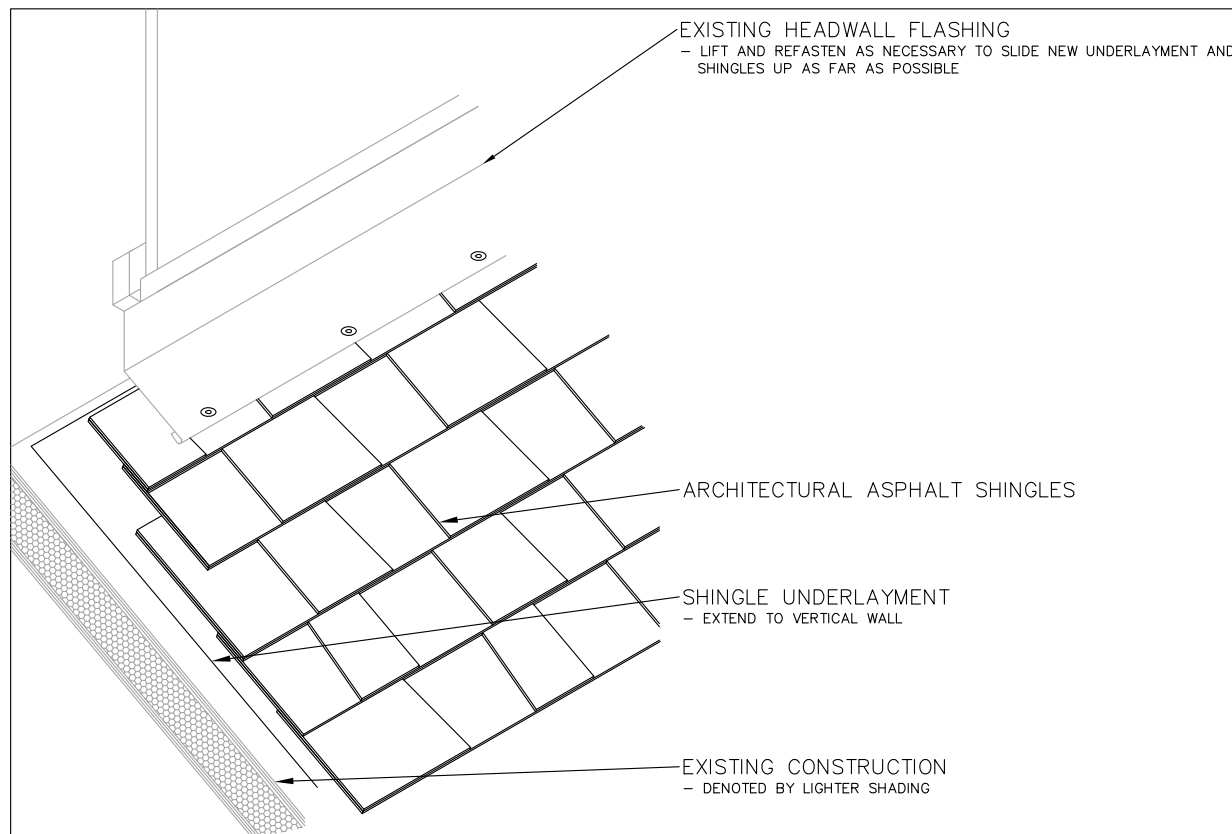
DETAIL 4: OPEN-VALLEY
NOT TO SCALE



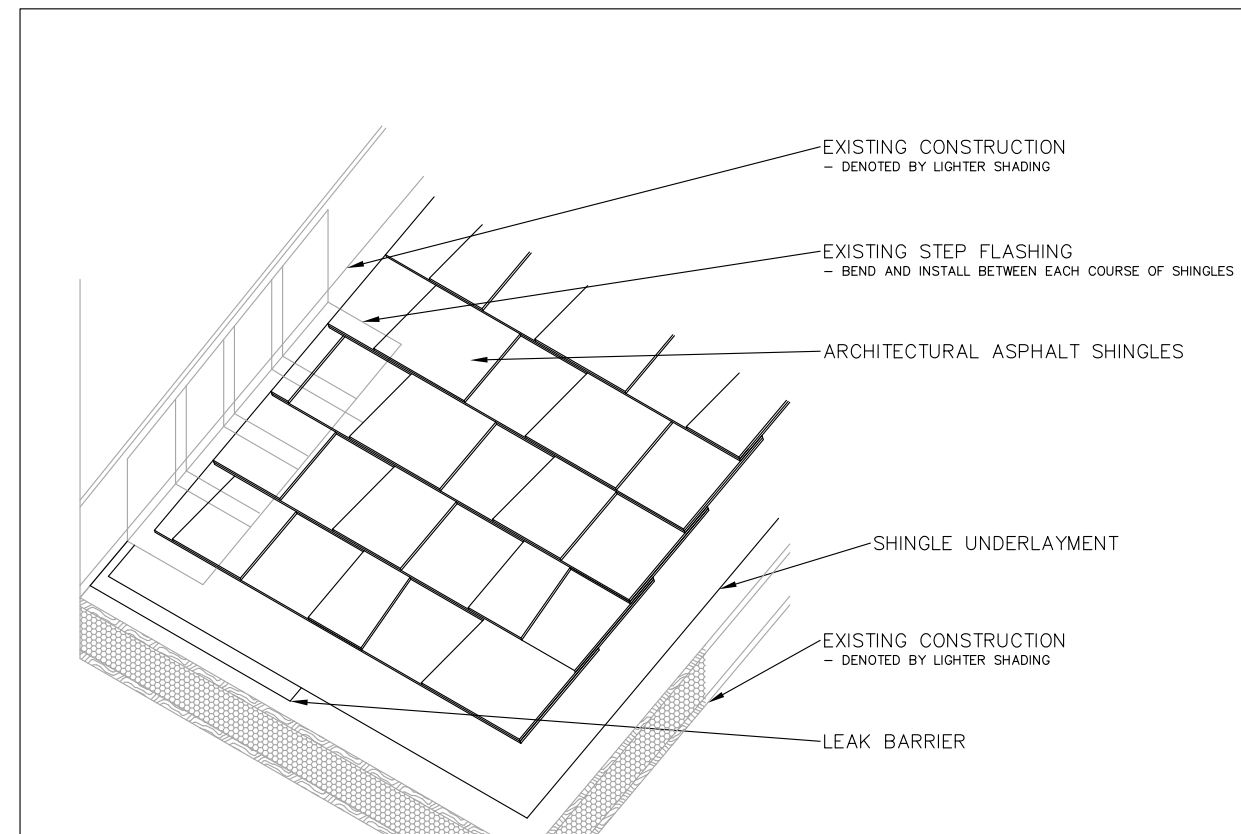
DETAIL 5: RAKE
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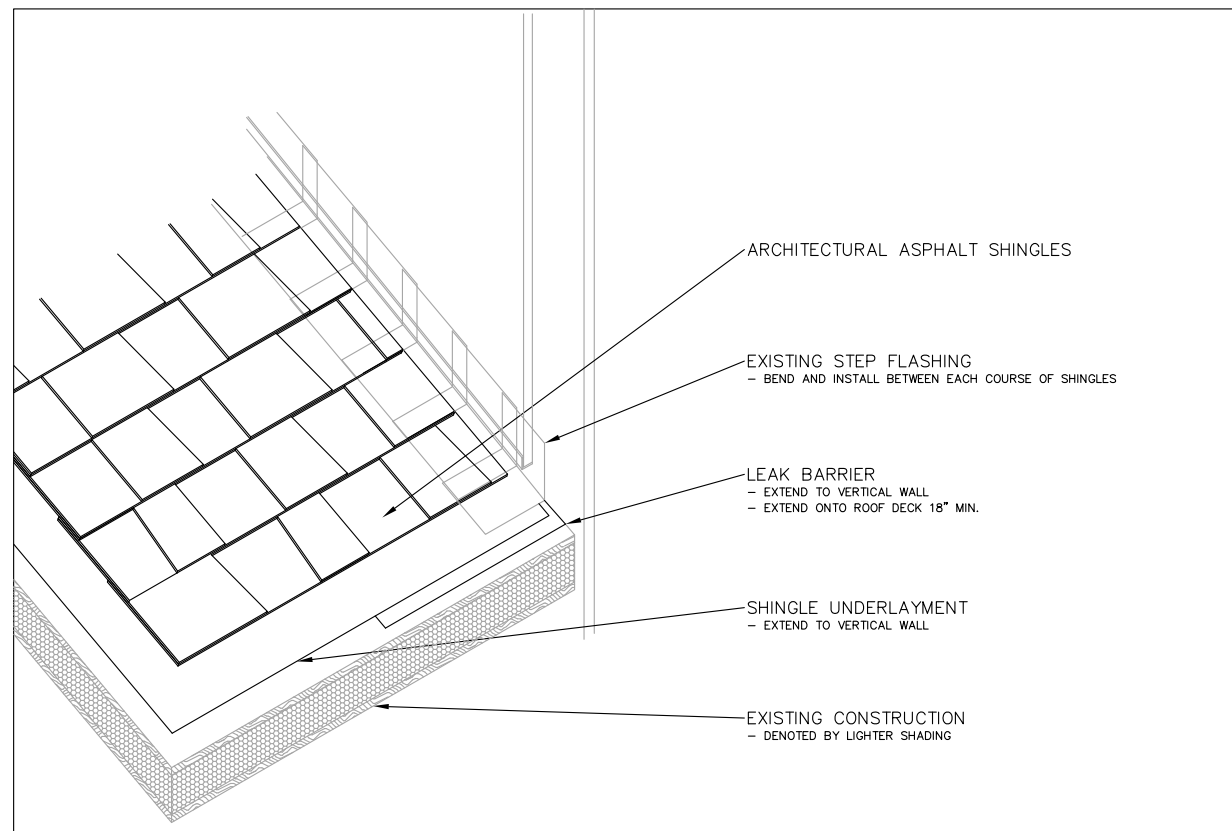
DETAIL 6: TIE-IN TO MODIFIED BITUMEN
NOT TO SCALE



DETAIL 7: HEADWALL
NOT TO SCALE

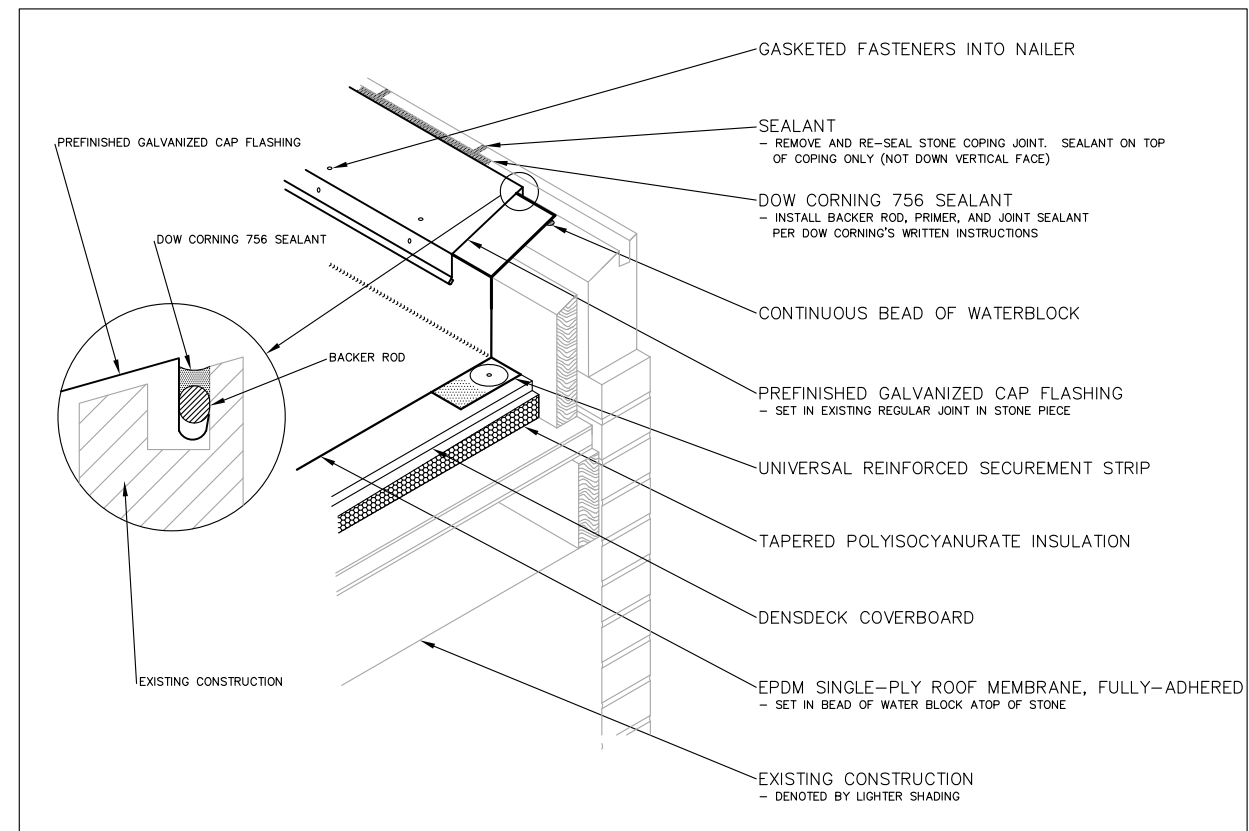


DETAIL 8: SIDEWALL @ CUPOLA
NOT TO SCALE



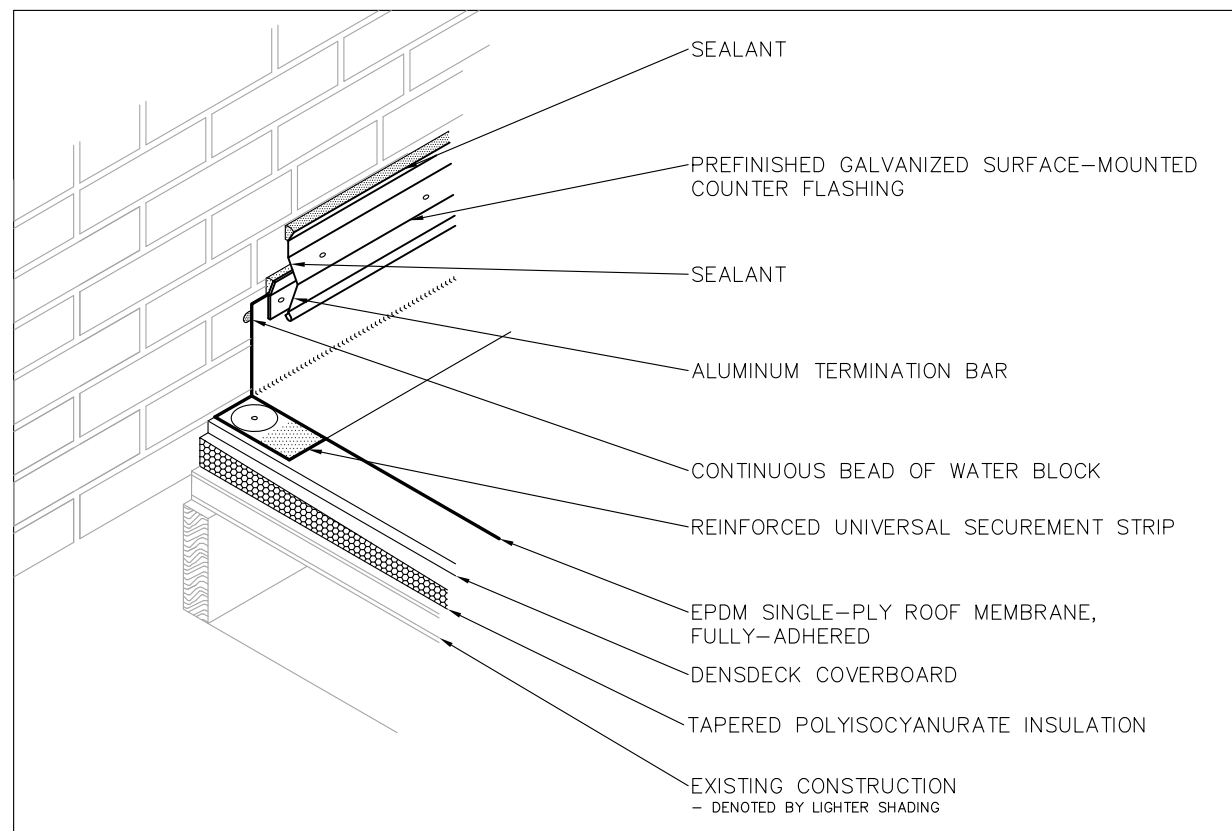
DETAIL 9: SIDEWALL @ DORMER

NOT TO SCALE



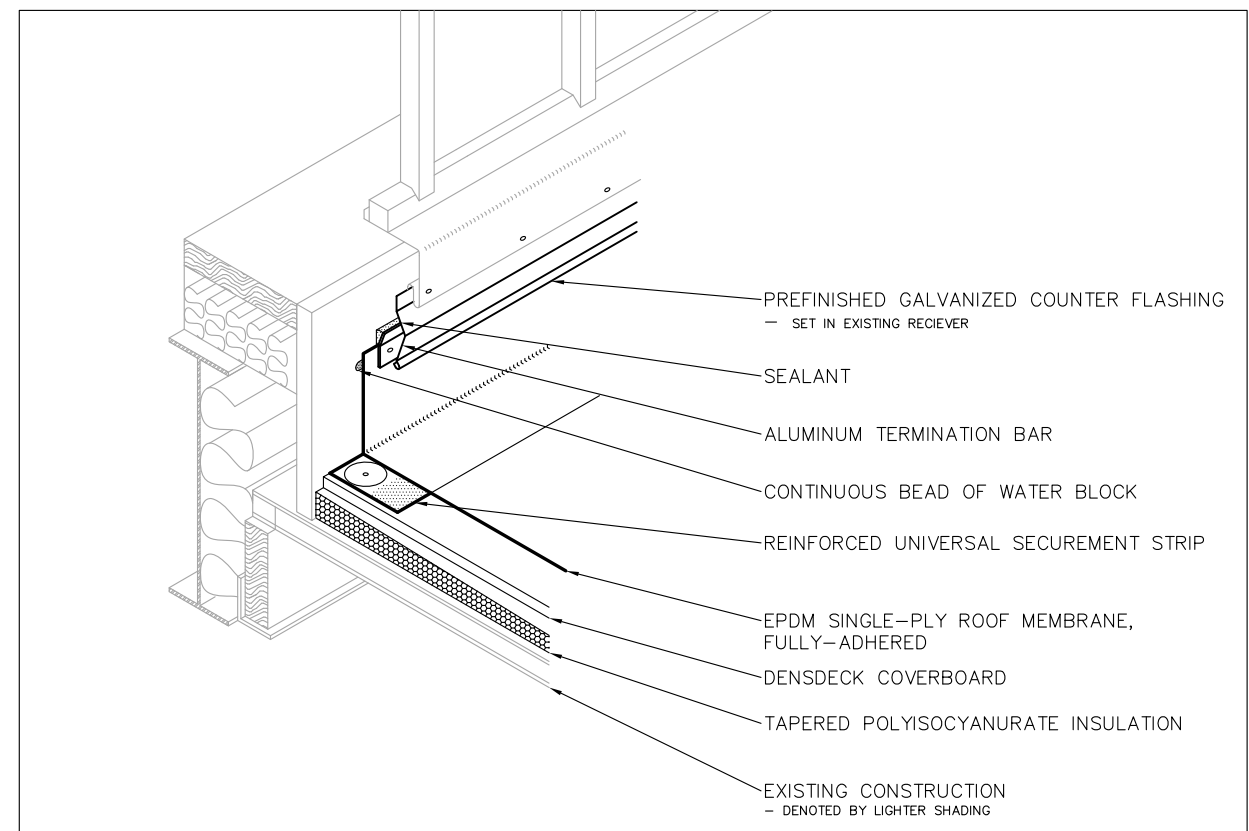
DETAIL 10: EPDM @ ROOF EDGE

NOT TO SCALE



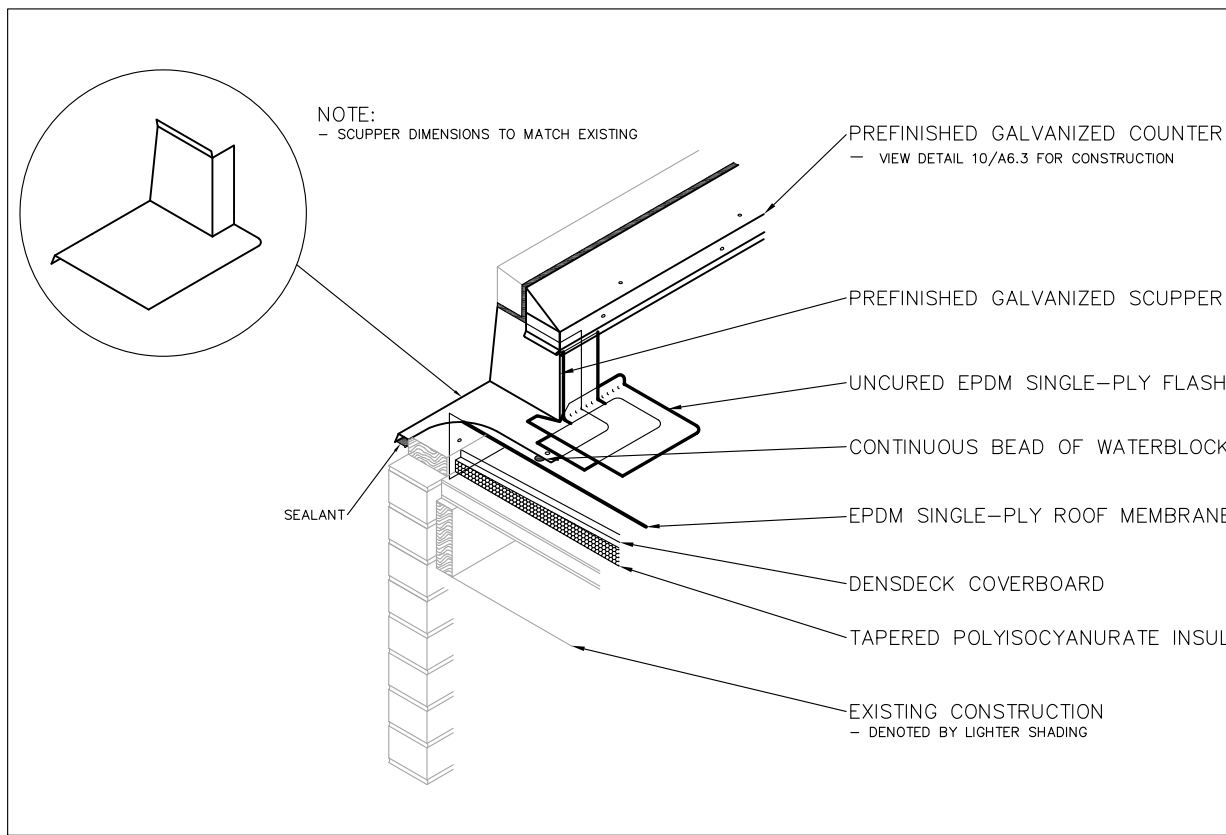
DETAIL 11: SURFACE MOUNTED COUNTER FLASHING

NOT TO SCALE

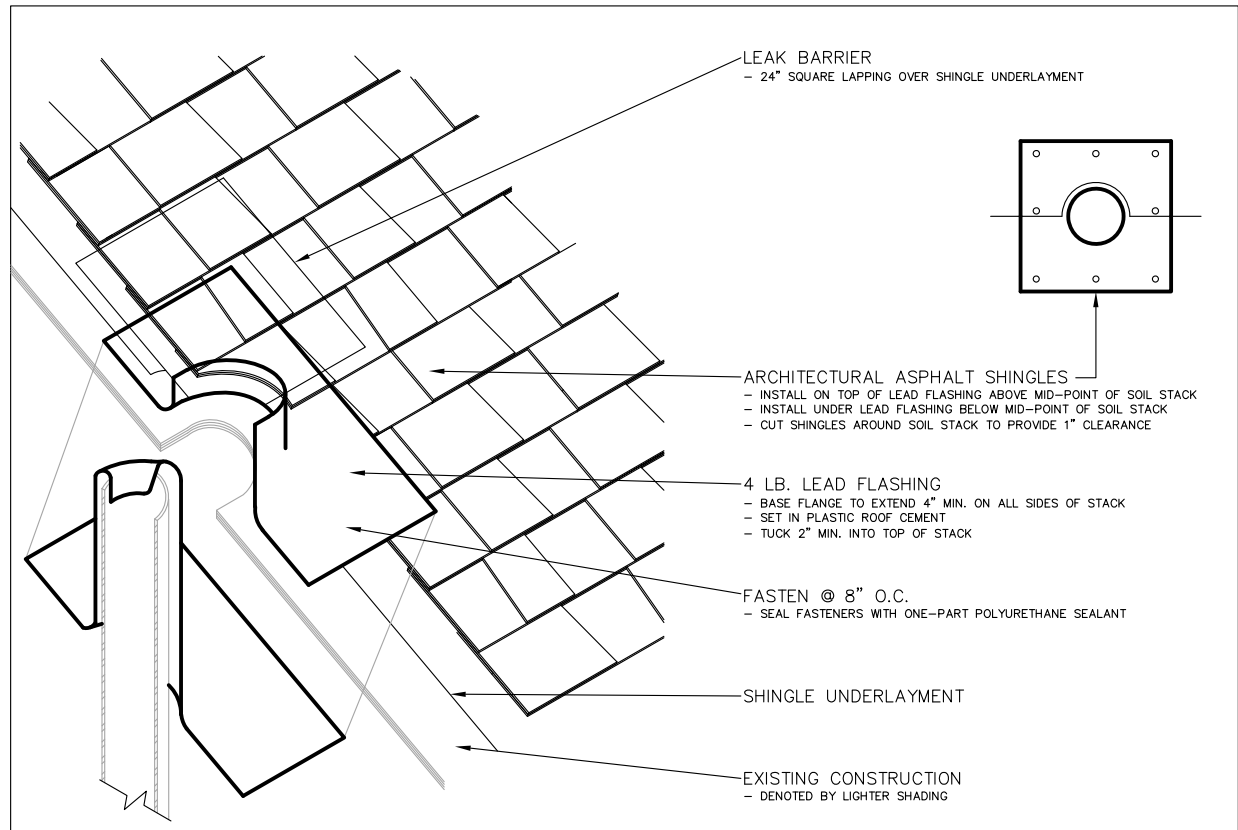


DETAIL 12: COUNTER FLASHING

NOT TO SCALE



DETAIL 13: SCUPPER
NOT TO SCALE



TYPICAL DETAIL 1: SOIL STACK

NOT TO SCALE

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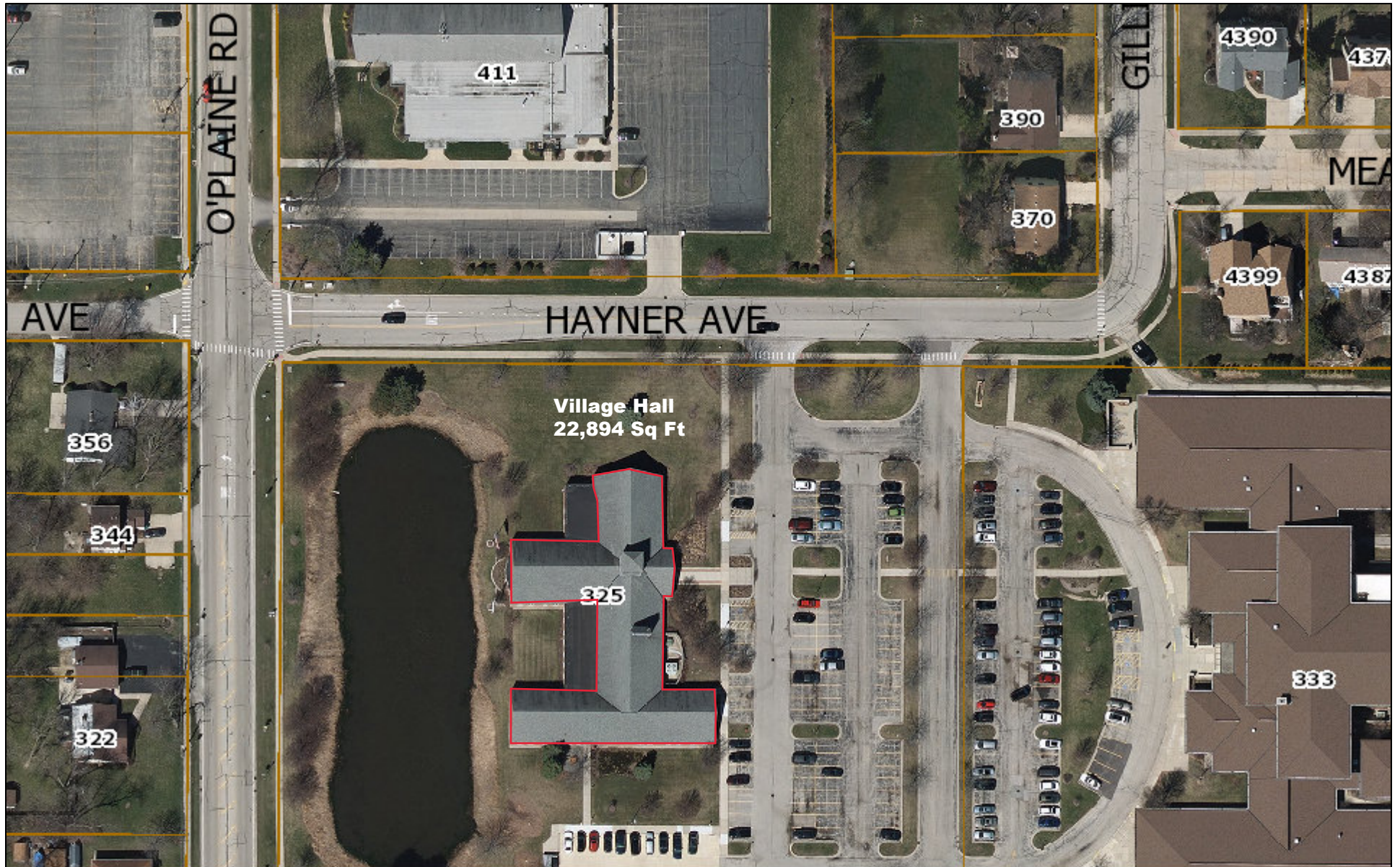
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PROJECT NAME:	VILLAGE OF GURNEE VILLAGE HALL 325 NORTH O'PLAINE RD, GURNEE, IL
TITLE:	TYPICAL ROOF DETAILS

DRAWN BY:	BTS	DATE:	7/12/2018
SCALE:	N.T.S.	DRAWING NO.:	A7.0

IRS SPEC NO.:	16758	NOTES:	

Gurnee Village Hall



 Parcel Lines

Trails

 Trails



Scale
1:1,200