CITY OF HAMMOND RFP 23-21

Roof Replacement at 190 Maintenance Garage

September 9, 2022

10:00 a.m.

Received (4) Four Responsive Proposals:

COMPANY	TOTAL:
Roofing solutions	\$187,415.00
Rycars	\$134,430.00
Construction	
Vincent's roofing	\$225,000.00
A-Lert Roof System	\$184,350.00

Proposals were due in by 10:00 a.m. Friday, September 9, 2022 Present at opening: Jana Soileau (Purchasing Manager), Krystle Noto (Assistant Purchasing Agent), and Todd Landry (Supreme Roofing).



City Of Hammond Purchasing Department

RFP # 23-21 For

Roof Replacement The City of Hammond Maintenance Garage

Sealed Proposals Shall Be Received by the Purchasing Department,
City of Hammond
310 East Charles Street
P. O. Box 2788
Hammond, Louisiana 70404-2788

Until

10:00 a. m. on September 9, 2022

At Which Time All Proposals Will Be Opened and Read Aloud

Advertisement in the Official Journal, Daily Star, to be published (3) Times August 11, 18 & 25, 2022

Jana Thurman Soileau - Purchasing Manager- (985)-277-5633

<u>Mandatory Pre-Proposal Conference</u> has been scheduled for **August 26, 2022 at 8:00am** at the location of the Hammond Maintenance Garage: 18104 Hwy 190 E., Hammond, La. 70401

This is the Proposal of:

Date:	
Company:	
Section 3 Business/WBE/SBE/MBE/I	DBE:
Address:	
City: S	tate: ZIP Code:
Person to Contact:	
Phone:	Fax:
Email:	

Your Proposal is important to us.

However, should you choose NOT to submit a Proposal for this project, the City would still ask you to complete this sheet and indicate "No Proposal". This shall NOT affect your participation in future RFPs, but only serve as a means of verifying you received notification of this RFP.

Section 3 Business/WBE/SBE/MBE/DBE

The City encourages Proposals from Section 3 businesses, Woman Business Enterprises, Minority Business Enterprises, Small Business Enterprises, and other potentially Disadvantaged Business Enterprises. If your company is one of these types of businesses, please indicate "Section 3," "WBE," "SBE," "MBE," or "DBE" in the space provided above.

Nondiscrimination Requirements

By submitting and signing this Proposal, the Proposer agrees to comply with Title VI and VII of the Civil Rights Act of 1964 as amended; the Vietnam Era Veterans Readjustment Assistance Act of 1974; Section 503 of the Rehabilitation Act of 1973; Section 202 of Executive Order 11246 as amended; and the Americans with Disabilities Act of 1990.

The Proposer also agrees to keep informed of and comply with all federal, State, and local laws, ordinances, and regulations which affect the Proposer's employees or prospective employees.

	Name of Project	Project No.
	STATE OF	
	PARISH OF	
	ATTESTATIO	ONS AFFIDAVIT
	fore me, the undersigned notary public, duly commesaid, personally came and appeared Affiant, who a	nissioned and qualified in and for the parish and state fter being duly sworn, attested as follows:
<u>LA</u>	. R.S. 38:2227 PAST CRIMINAL CONVICT	TIONS OF BIDDERS
A.		ator, director, manager, officer, organizer, or member who has a bidding entity named below has been convicted of, or has entered llowing state crimes or equivalent federal crimes:
	(a) Public bribery (R.S. 14:118)(b) Corrupt influencing (R.S. 14:120)	(c) Extortion (R.S. 14:66)(d) Money laundering (R.S. 14:23)
B.	manager, officer, organizer, or member who has a mamed below has been convicted of, or has entered	e, no sole proprietor or individual partner, incorporator, director, minimum of a ten percent (10%) ownership in the bidding entity a plea of guilty or nolo contendere to any of the following state citation or execution of a contract or bid awarded pursuant to the na Revised Statutes:
	 (a) Theft (R.S. 14:67) (b) Identity Theft (R.S. 14:67.16) (c) Theft of a business record (R.S.14:67.20) (d) False accounting (R.S. 14:70) (e) Issuing worthless checks (R.S. 14:71) 	 (f) Bank fraud (R.S. 14:71.1) (g) Forgery (R.S. 14:72) (h) Contractors; misapplication of payments (R.S. 14:202) (i) Malfeasance in office (R.S. 14:134)
<u>L</u> A	A. R.S. 38:2212.10 Verification of Employees	
A.	At the time of bidding, Appearer is registered and hires in the state of Louisiana are legal citizens of the st	participates in a status verification system to verify that all new the United States or are legal aliens.
В.	If awarded the contract, Appearer shall continue, system to verify the legal status of all new employe	during the term of the contract, to utilize a status verification ees in the state of Louisiana.
C.	If awarded the contract, Appearer shall require compliance with Paragraphs (A) and (B) of this Su	all subcontractors to submit to it a sworn affidavit verifying bsection.
	Name of Project	Project No.

LA. R.S. 23:1726(B) Certification Regarding Unpaid Workers Compensation Insurance

A.	Louisiana Revised Statutes of 1950 (Alternative to appeal that assessment is exhausted, from su	om an assessment under Part X of Chapter 11 of Title 23 of the e Collection Procedures & Assessments) is in effect, and whose right abmitting a bid or proposal for or obtaining any contract pursuant to I Statutes of 1950 and Chapters 16 and 17 of Title 39 of the Louisiana
B.	By signing this bid /proposal, Affiant certifies entity.	that no such assessment is in effect against the bidding / proposing
	NAME OF BIDDER	NAME OF AUTHORIZED SIGNATORY OF BIDDER
	DATE	TITLE OF AUTHORIZED SIGNATORY OF BIDDER
		ΓURE OF AUTHORIZED RY OF BIDDER/AFFIANT
	Sworn to and subscribed before me by A	ffiant on the day of, 20

Notary Public

STATE OF LOUISIANA PARISH OF	
PROJECT NOLOCATION	NAME
AFFI	DAVIT
aforesaid, personally came and appeared	representing who, being this affidavit and does hereby agree under oath to comply
PA	RT I.
Section 2224 of Part II of Chapter 10 of Title 38 of the I	Louisiana Revised Statutes, as amended.
indirectly, to secure the public contract under employed by the affiant whose services in conne	firm, association, or other organization, either directly or which he received payment, other than persons regularly ection with the construction, alteration or demolition of the blic contract were in the regular course of their duties for
firm, association, or other organization for solic compensation to persons regularly employed	affiant was paid or will be paid to any person, corporation, eiting the Contract, other than the payment of their normal by the affiant whose services in connection with the blic building or project were in the regular course of their
PAI	RT II.
Section 2190 of Part I of Chapter 10 of Title 38 of the L	ouisiana Revised Statutes, as amended.
directly or indirectly, in any corporation, firm, partnersl	thereof, does not own a substantial financial interest, either nip, or other organization which supplies materials for the ineer has performed architectural or engineering services, c work for which the materials are being supplied.
For the purposes of this Section, a "substantial financial in the American Stock Exchange or the New York Stock E	interest" shall exclude any interest in stock being traded on xchange.
That affiant, if subject to the provisions of this section, dethe violation of this section.	oes hereby agree to be subject to the penalties involved for
	AFFIANT
SWORN TO AND SUBSCRIBED BEFORE ME THIS	DAY OF, 20
	NOTARY

BID BOND FOR

Date: KNOW ALL MEN BY THESE PRESENTS: __, as Principal, , as Surety, are held and firmly bound and (Obligee), in the full and just sum of five unto the (5%) percent of the total amount of this bid, including all alternates, lawful money of the United States, for payment of which sum, well and truly be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally firmly by these presents. Surety represents that it is listed on the current U. S. Department of the Treasury Financial Management Service list of approved bonding companies as approved for an amount equal to or greater that the amount for which it obligates itself in this instrument or that it is a Louisiana domiciled insurance company with at least an A - rating in the latest printing of the A. M. Best's Key Rating Guide. If surety qualifies by virtue of its Best's listing, the Bond amount may not exceed ten percent of policyholders' surplus as shown in the latest A. M. Best's Key Rating Guide. Surety further represents that it is licensed to do business in the State of Louisiana and that this Bond is signed by surety's agent or attorney-in-fact. This Bid Bond is accompanied by appropriate power of attorney. THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas said Principal is herewith submitting its proposal to the Obligee on a Contract for: NOW, THEREFORE, if the said Contract be awarded to the Principal and the Principal shall, within such time as may be specified, enter into the Contract in writing and give a good and sufficient bond to secure the performance of the terms and conditions of the Contract with surety acceptable to the Obligee, then this obligation shall be void; otherwise this obligation shall become due and payable. PRINCIPAL (BIDDER) **SURETY**

BY:

AUTHORIZED OFFICER-OWNER-PARTNER

BY:

AGENT OR ATTORNEY-IN-FACT (SEAL)

SECTION 010000

GENERAL REQUIRMENTS

Scope of Work

THIS PROJECT SCOPE CONSISTS OF REPLACING THE EXISTING ROOF AT THE CITY OF HAMMOND MAINTENANCE GARAGE, LOCATED AT 18104 HWY 190 E. HAMMOND LA. 70401, AS DESCRIBED IN THE SPECIFICATIONS AND DRAWINGS.

PRE-PROPOSAL CONFERENCE

<u>A Mandatory Proposer's conference</u> has been scheduled for **August 26**, **2022 at 8:00 am** at the location of The City of Hammond Maintenance Garage:

18104 Hwy 190 E., Hammond, La. 70401

Attendance is mandatory, interested proposers are highly encouraged to attend. In order to make the meeting more effective for all participants, attendees should <u>read this document thoroughly</u> prior to the meeting.

Substantial clarifications or changes required as a result of the meeting will be issued in the form of a written addendum to the RFP. Specifications/Drawings electronic version can be emailed; for a hard copy, please call Jana Thurman 985-277-5633.

Instructions to proposers

PROPOSERS ARE URGED TO PROMPTLY REVIEW THE REQUIREMENTS OF ALL SPECIFICATIONS AND SUBMIT QUESTIONS FOR RESOLUTION AS EARLY AS POSSIBLE DURING THE SUBMITTAL PERIOD. QUESTIONS OR CONCERNS MUST BE SUBMITTED TO THE PURCHASING MANAGER DURING THE PROPOSAL PERIOD AND SHALL BECOME PART OF YOUR PROPOSAL PACKAGE. OTHERWISE, THIS WILL BE CONSTRUED AS ACCEPTANCE BY THE PROPOSERS THAT THE INTENT OF THE SPECIFICATIONS IS CLEAR AND THAT COMPETITIVE PROPOSALS MAY BE OBTAINED AS SPECIFIED HEREIN. PROTESTS WITH REGARD TO THE SPECIFICATION DOCUMENTS SHALL NOT BE CONSIDERED AFTER PROPOSALS ARE OPENED.

RFP Packages are mailed only as a courtesy. The City of Hammond does not assume responsibility for proposers to receive RFP packages. Proposers should rely on advertisements in the local newspaper, City Website www.hammond.org, online at www.bidexpress.com or personally pick up RFP packages with specifications. Full information may be obtained, or questions answered, by contacting the Purchasing Department, Hammond City Hall Complex, 310 East Charles Street.

These specifications are written in a manner to invite open competition. Any manufacturer's names, trade names, brand names, or catalog numbers used in the specifications are for the purpose of describing and establishing general quality levels. Such references are not intended to be restrictive unless the RFP states that only the brand name will be considered for reasons of compatibility, etc.

The RFP number, Proposers name, address, Louisiana Contractor License number and RFP opening date shall be clearly printed or typed on the outside of the Proposal envelope, if mailed. Only one (1) proposal shall be accepted from each proposer. Alternates shall not be accepted unless specifically requested in the RFP specifications. Proposals can be delivered or mailed.

The method of delivery of proposals is the responsibility of the proposer. All proposals shall be received by the Purchasing Department, Hammond City Hall Complex, 310 East Charles Street Hammond, Louisiana on or before the specified RFP opening date and time.

Normally, bid bonds will not be required on bids for materials, supplies, annual contracts or small labor contracts. If a bid bond is required, it will be specifically requested on the RFP form and included in the specifications. **BID BOND IS REQUIRED.**

Proposals shall be accepted only on the RFP forms furnished by the City of Hammond Purchasing Department. The City of Hammond shall only accept proposals from those proposers in whose name the RFP forms and or specifications were issued. Altered or incomplete proposals forms, or use of substitute forms or documents, shall render the proposal non-responsive and subject to rejection.

The entire RFP package, including the specifications and copies of any addenda issued shall be submitted to the Purchasing Department as THE RFP.

All proposals must be typed or written in <u>BLUE/BLACK INK</u>. Any erasures, strikeover and/or changes to prices shall be initialed by the proposer. Failure to initial shall be cause for rejection of the proposal as non-responsive.

All proposals shall be signed. Failure to do so shall cause the proposal to be rejected as non-responsive.

Where one (1) or more vendor's exact products or typical workmanship is designated as the level of quality desired or equivalent, the Purchasing Agent/Building Director, after study and review, reserves the right to determine the acceptability of any equivalent offered. The decision, after study and review, shall be final and binding.

If proposing "equivalent" products, specifications, illustrative literature and any deviations shall be submitted with proposal. Representative samples shall be submitted upon request, if appropriate.

Liability:

The Contractor at all times during the term of the contract shall maintain and pay for property damage and public liability insurance with limits of at least (\$1,000,000.00) one million dollars inclusive of bodily injury and property damage for any one occurrence.

Prior to commencing work under this contract the Contractor must file with the City a "certificate of insurance" meeting aforementioned requirements with the City of Hammond named insured by added endorsement. All premiums and expense incurred with this insurance shall be paid for by the Contractor.

The Contractor shall assume the defense of and indemnify and save harmless the City and its Officers and Agents from all claims relating to work.

The Contractor shall be responsible for any and all damages or claims for damages or injuries or accidents done or caused by him or his employees, or resulting from the execution of the work, or any operations, or caused by reason of existence or location or condition of facilities or of any materials, supplies, or machinery used thereon or therein, or neglect or omission on his part, or all of the several acts or things required to be done by them, under and by these conditions, and covenants, and agrees to hold the City harmless and indemnified for all such damages and claims for damages.

The Contractor shall indemnify and save harmless the City from and against all losses and all claims, demands, payments, suits, actions, recoveries, all attorney fees, and judgments of every nature and description made, brought or recovered against the City by reason of any act or omission of the Contractor, his agents or employees, in the execution of his work.

Worker's Compensation:

The Contractor shall, at all times, pay or cause to be paid, any assessment or compensation required to be paid pursuant to the Worker's Compensation Act.

The Contractor shall, at the time of entering into a Contract with the City, provide satisfactory proof that all assessments or compensation payable to the Worker's Compensation Board have been paid and the City may, at any time during the performance or upon the completion of such Contract require a further declaration such Contract require a further declaration that such assessments or compensations have been paid.

Performance Bond:

The Contractor shall furnish and pay for a Performance Bond written by a company licensed to do business in Louisiana, and shall be countersigned by a person who is contracted with the surety company or bond issuer as an agent of the company or issuer, and who is licensed as an insurance agent in this state, and who is residing in this state, in an amount equal to the 100% contract amount.

Sealed RFP Form for Public RFP 23-21

As a qualified proposer for the project, I have carefully examined all of the RFP Documents and have examined the conditions and specifications of the work to be done, and I hereby propose to furnish all labor, materials, equipment, tools, etc., as called for by the RFP specifications.

I hereby acknowledge that I have received the following Addenda and they are reflected as part	<u>of this proposal,</u>
List by date and Addendum number	
I certify that I am duly licensed in Louisiana to perform the work. Louisiana License #	===
Work to be complete within days after receipt of order	

Total Price	DOLLARS
(\$)	
Signature of Proposer	Company Name
Signature of Proposer The above signature on this Sealed Proposal certifies that	

<u>Proposal Amount</u>
Proposer agrees to Furnish All Material, Supplies and Services in complete accordance with all RFP 23-21 Specifications for the sum indicated:

SECTION 011000

SUMMARY OF WORK

PART 1 GENERAL

1.01 RELATED SECTIONS

- A. Division 010000 General Requirements
- B. Division 054600 Retrofit Framing and Clips
- C. Division 072200 Vinyl Back Insulation
- D. Division 074100 Standing Seam Metal Roofing Panels
- E. Division 076200 Sheet Metal Flashing and Trim Gutters and Downspouts

1.02 PROJECT INFORMATION

- A. Project Identification: Retrofit Roof Installation City of Hammond Maintenance Garage
 - 1. Project Location: 18104 Hwy 190, Hammond, La. 70401
- B. Owner Representative: Jana Thurman , City of Hammond Purchasing Department , Purchasing Manager 985-277-5633

1.03 DESCRIPTION

- A. The Work includes the provision of all labor, material, equipment, management, coordination, supervision and administration to complete the Work as outlined.
- B. The Contractor shall complete the following Work in a safe manner. The following outline of Work is noted by System. The Work includes, but is not limited to the following:
 - 1. Leave existing Standing Seam Panel roof in place and Install new retrofit frame system including Clips and Back Up Plates meeting IBC Code for the projects location.
 - 2. Install Vinyl Back Insulation over existing metal roof.
 - 3. Install new standing seam metal roof system.

NEW ROOFING SYSTEM DESCRIPTION

- a. Leave existing Standing Seam Panel roof in place. Remove Flashings. (Existing Standing Seam roof is over Purlins)
- b. Install Retrofit metal sections and Clips including back up plates to support flashings.
- c. Install 3" Vinyl Back Insulation.
- d. Install new standing seam metal roof system, Vented Ridge Cap, and all flashings.
- e. Install new gutter and downspouts.
- f. (Wall Panels are existing and will be left in place.)

1.04 PROJECT COORDINATION RESTRICTIONS:

- 1. Owner will be occupying the building during reroofing activities. Coordination with the owner will be required to not disturb activities. Safety must be considered and required during construction.
- 2. Maintain access to the building entrance/exit. Do not close off or prevent exit from the building doors or walkways without owners approval or authorities having jurisdiction.
- 3. Owner must be notified a minimum of 72 hours in advance of construction activities.

1.05 PERMITS

1. Contractor is responsible for applying and obtaining permits required to successfully complete this projects specific work. Submittal to owner required.

1.06 BUILDING CODES

1. Compliance with Current International Building Code is required. Submit all compliance for the roofing system called out in specifications.

END OF SECTION

SECTION 054600

RETROFIT STEEL METAL ROOF FRAMING AND CLIPS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Light gage steel retrofit roof framing system for standing seam metal roof systems.
- B. Related Sections:
 - 1. Division 010000 General Requirements
 - 2. Division 011000 Summary of Work
 - 3. Division 074100 Standing Seam Metal Roofing Panels includes Vinyl Back Insulation
 - 4. Division 076200 Sheet Metal Flashing and Trim Gutters and Downspouts

1.2 REFERENCES

- A. American Iron and Steel Institute (AISI) Specification for the Design of Cold-Formed Steel Structural Members.
- B. American Society of Civil Engineers (ASCE) 7 Minimum Design Loads for Buildings and Other Structures.
- C. ASTM International (ASTM):
 - 1. A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated by the Hot-Dip Process.
 - 2. A1011/A1011M Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
 - 3. C665 Standard Specification for Mineral Fiber Blanket Thermal Insulation for Wood Frame and Light Construction Buildings.
 - 4. C1289 Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.

1.3 SYSTEM DESCRIPTION

- A. Retrofit Steel Roof Framing System:
 - 1. Material Thickness: 16 gage metal section and 16 gage Clips
- B. Design Requirements; design roof system to withstand:
 - Live and dead loads in accordance with ASCE 7-10 IBC Building Code for projects location.
- C. Performance Requirements: Tests shall be conducted by or witnessed by a recognized independent laboratory or independent professional engineer. Stamped engineering shall be signed and sealed by engineer registered in the state of Louisiana.

Roof Replacement City of Hammond Maintenance Garage 18104 Hwy 190 Hammond, La. 70401

1.4 SUBMITTALS

- A. Submittals for Review:
 - 1. Shop Drawings: Indicate framing layout, fastenings, and pertinent details.
 - 2. Product Data: Indicate framing sizes, materials, finishes, and accessories.
 - 3. Stamped Engineering by Louisiana licensed engineer.

B. Quality Control Submittals:

- Certificate of Compliance: Certificate from Professional Structural Engineer responsible for system design that system was designed in accordance with Contract Document requirements, applicable Building Code, and generally accepted engineering practices.
- 2. Engineering Data: Calculations indicating wind uplift and deadload capacity of roof system and fastening requirements to meet loading, sealed by registered professional engineer responsible for system design.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 2 years experience in work of this Section.
- B. Installer Qualifications: Minimum 5 years experience in work of this Section.
- C. Calculate structural properties of roof system in accordance with AISI Specifications.
- D. Design framing under the direct supervision of a Professional Structural Engineer experienced in the work of this Section and licensed in the State in which the Project is located.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Store framing members and clips off ground, with one end elevated.
- B. Protect framing members from damage and corrosion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Petersen Aluminum Corporation
- B. Mcelroy Metal
- C. Imetco
- D. Prior Approved equal

2.2 MATERIALS

A. Galvanized Steel Sheet:

- 1. ASTM A653/A653M or A1011/A1011M, minimum yield strength of 33 ksi, G60 coating class, 16 gage minimum.
- B. Standing Seam Metal and Insulation in Section 074100

2.3 ACCESSORIES

- A. Fasteners: Self-drilling, self-tapping, corrosion-resistant coated steel screws, type and length to suit project design requirements.
- B. Clips: 16 gage Clips designed to meet wind uplift requirements.

2.4 FABRICATION

Verify existing metal roof panel profile prior to fabrication of subframes.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Verify that existing roof framing is acceptable to receive new roof framing system.
- B. Do not remove existing metal panel fasteners unless they substantially interfere with placement of new framing system.

3.2 INSTALLATION OF FRAMING SYSTEM

- A. Install Clips and framing system in accordance with manufacturer's instructions and approved Shop Drawings.
- B. Locate subframes directly over existing roof framing members.
- C. Space fasteners in accordance with system design or as directed by manufacturer.

3.3 INSTALLATION OF INSULATION

- A. Friction fit insulation between framing members.
- B. Butt insulation to adjacent construction. Butt ends and edges.
- C. Carry insulation continuously over or under pipes, conduits, boxes, and other components.
- D. Ensure complete insulation coverage without voids.
- E. Do not install more insulation than can be covered with metal panels on same day.
- F. Do not install insulation where it is outside of Eave flashing or any flashing allowing water to enter

Roof Replacement City of Hammond Maintenance Garage 18104 Hwy 190 Hammond, La. 70401

roof system.

3.4 INSTALLATION OF METAL ROOFING

A. Install roofing system as specified in Section 074100

END OF SECTION

SECTION 072200

ROOF INSULATION

PART 1 GENERAL

1.01 SUMMARY

- A. Work shall include, but is not limited to, the following:
 - 1. Preparation of existing Standing Seam Roof system to receive retrofit frame and clips.
 - 2. Insulation
 - 3. New Standing Seam Metal Roof System
 - 4. All related materials and labor required to complete specified roofing necessary to receive specified manufacturer's warranty.

Summary of Standing Seam Roof Insulation

1. 3" White Vinyl Back Insulation over existing Standing Seam roof

1.02 RELATED SECTIONS

- A. Division 010000 General Requirements
- B. Division 011000 Summary of Work
- C. Division 054600 Retrofit Framing and Clips
- D. Division 074100 Standing Seam Metal Roofing
- E. Division 076200 Sheet Metal Flashing and Trim

1.01 DEFINITIONS

- A. ASTM D 1079-Definitions of Term Relating to Roofing and Waterproofing.
- B. The National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual, Fifth Edition Glossary.

1.02 REFERENCES

- A. AMERICAN SOCIETY OF CIVIL ENGINEERS Reference Document ASCE 7, Minimum Design Loads for Buildings and Other Structures.
- B. AMERICAN STANDARD OF TESTING METHODS (ASTM):
 - 1. ASTM C 1278 Standard Specification for Fiber-Reinforced Gypsum Panel.

- 2. ASTM C 1289 Standard Specification for Faced Rigid Cellular Polyisocyanurate Insulation Board.
- 3. ASTM D 41 Standard Specification for Asphalt Primer Used in Roofing, Damp proofing, and Waterproofing.
- C. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)::
 - 1. ANSI/SPRI FX-1, Standard Field Test Procedure for Determining the Withdrawal Resistance of Roofing Fasteners.
 - ANSI/FM 4474- American National Standard for Evaluating the Simulated Wind Resistance of Roof Assemblies Using Static Positive and/or Negative Differential Pressures.
- D. FACTORY MUTUAL (FM):
 - FM 4450 Approval Standard Class I Insulated Steel Roof Decks.
 - 2. FM 4470 Approval Standard Class I Roof Covers.
- E. INTERNATIONAL CODES COUNCIL (ICC):
 - 1. 2012 International Building Code (IBC).
- F. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA).
- G. UNDERWRITERS LABORATORY (UL):
 - UL 790 Standard Test Methods for Fire Tests of Roof Coverings.
 - 2. UL 1256 Fire Test of Roof Deck Constructions.

1.03 ACTION SUBMITTALS

- A. Product Data Sheets: Submit manufacturer's product data sheets, installation instructions and/or general requirements for each component.
- B. Safety Data Sheets: Submit manufacturer's Safety Data Sheets (SDS) for each component.
- C. Sample/Specimen Warranty from the manufacturer and contractor.
- D. Shop Drawings: Provide roof plan and applicable roof system detail drawings.

1.04 INFORMATIONAL SUBMITTALS

A. Contractor Certification: Submit written certification from roofing system manufacturer certifying that the applicator is authorized by the manufacturer to install the specified materials and system.

1.05 CLOSEOUT SUBMITTALS

A. Warranty: Provide manufacturer's and contractor's warranties upon substantial completion of the roofing system.

1.06 QUALITY ASSURANCE

A. MANUFACTURER QUALIFICATIONS:

- 1. Manufacture shall have 20 years of experience manufacturing roofing materials.
- 2. Trained Technical Field Representatives, employed by the manufacturer, independent of sales.
- 3. Provide reports in a timely manner of all site visit reports.
- 4. Provide specified warranty upon satisfactory project completion.

B. CONTRACTOR QUALIFICATIONS:

- 1. Contractor shall be authorized by the manufacturer to install specified materials prior to the bidding period through satisfactory project completion.
- 2. Applicators shall have completed projects of similar scope using same materials as specified herein.
- Contractor shall provide full time, on-site superintendent or foreman experienced with the specified roof system through satisfactory project completion.
- 4. Applicators shall be skilled in the application methods for all materials.
- 5. Contractor shall maintain a daily record, on-site, documenting material installation and related project conditions.
- 6. Contractor shall maintain a copy of all submittal documents, on-site, available at all times for reference.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Refer to each product data sheet or other published literature for specific requirements.
- B. Deliver materials and store them in their unopened, original packaging, bearing the manufacturer's name, related standards, and any other specification or reference accepted as standard.
- C. Protect and store materials in a dry, well-vented, and weatherproof location. Only materials to be used the same day shall be removed from this location.
- D. When materials are to be stored outdoors, store away from standing water, stacked on raised pallets or dunnage, at least 4 in or more above ground level. Carefully cover storage with "breathable" tarpaulins to protect materials from precipitation and to prevent exposure to condensation.
- E. Properly dispose of all product wrappers, pallets, cardboard tubes, scrap, waste, and debris. All damaged materials shall be removed from job site and replaced with new, suitable materials.

1.08 SITE CONDITIONS

A. SAFETY:

- 1. The contractor shall be responsible for complying with all project-related safety and environmental requirements.
- 2. Refer to NRCA CERTA recommendations, local codes and building owner's requirements for hot work operations.
- 3. The contractor shall review project conditions and determine when and where conditions are appropriate to utilize the specified liquid-applied, or semi-solid roofing materials. When conditions are determined by the contractor to be unsafe or undesirable to proceed, measures shall be taken to prevent or eliminate the unsafe or undesirable exposures and conditions, or equivalent approved materials and methods shall be utilized to accommodate requirements and conditions.
- 4. The contractor shall review project conditions and determine when and where conditions are appropriate to utilize the specified hot asphalt-applied materials. When conditions are determined by the contractor to be unsafe or undesirable to proceed, measures shall be taken to prevent or eliminate the unsafe or undesirable exposures and conditions, or equivalent approved materials and methods shall be utilized to accommodate requirements and conditions.
- 5. The contractor shall refer to product Safety Data Sheets (SDS) for health, safety, and environment related hazards, and take all necessary measures and precautions to comply with exposure requirements.

B. ENVIRONMENTAL CONDITIONS:

- 1. Monitor substrate temperature and material temperature, as well as all environmental conditions such as ambient temperature, moisture, sun, cloud cover, wind, humidity, and shade. Ensure conditions are satisfactory to begin work and ensure conditions remain satisfactory during the installation of specified materials. Materials and methods shall be adjusted as necessary to accommodate varying project conditions. Materials shall not be installed when conditions are unacceptable to achieve the specified results.
- Precipitation and dew point: Monitor weather to ensure the project environment is dry before, and will remain dry, during the application of roofing materials. Ensure all roofing materials and substrates remain above the dew point temperature as required to prevent condensation and maintain dry conditions.

1.09 PERFORMANCE REQUIREMENTS

A. FIRE CLASSIFICATION:

- Roof construction performance testing shall be in accordance with UL 1256, FM 4450 or FM 4470 to meet the specified requirements for interior flame spread and fuel contribution.
 - a. Roof construction meets requirements of UL 1256, or FM Class 1.

PART 2 PRODUCTS

2.01 MANUFACTURER

2.02 THERMAL INSULATION SYSTEM

WHITE VINYL BACK INSULATION (under metal roofing)

- a. Thickness 3" Fiberglass
- b. Vinyl Back to be Vinyl Vapor Retarder Film (Forplax AD-363)

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examination includes visual observations, qualitative analysis, and quantitative testing measures as necessary to ensure conditions remain satisfactory throughout the project.
- B. Conduct qualitative insulation adhesive adhesion tests, or quantitative bonded pull tests as necessary to ensure satisfactory adhesion is achieved.
- C. The contractor shall examine all roofing substrates including, but not limited to: insulation materials, roof decks, walls, curbs, rooftop equipment, fixtures, and wood blocking.
- D. The applicator shall not begin installation until conditions have been properly examined and determined to be clean, dry and, otherwise satisfactory to receive specified roofing materials.
- E. During the application of specified materials, the applicator shall continue to examine all project conditions to ensure conditions remain satisfactory to complete the specified roofing system.

3.02 PREPARATION

A. Before commencing work each day, the contractor shall prepare all roofing substrates to ensure conditions are satisfactory to proceed with the installation of specified roofing materials. Preparation of substrates includes, but is not limited to, substrate repairs, securement of substrates, eliminating all incompatible materials, and cleaning. B. Where conditions are found to be unsatisfactory, work shall not begin until conditions are made satisfactory to begin work. Commencing of work shall indicate contractor's acceptance of conditions.

3.03 INSULATION SYSTEM APPLICATION

- A. Follow insulation system component product data sheets, published general requirements and, approvals.
- B. Install all insulation system components on clean, dry, uniform and, properly prepared substrates.
- C. All insulation system boards shall be carefully installed and fitted against adjoining sheets to form tight joints.
- D. Insulation system boards that must be cut to fit shall be saw-cut or knife-cut in a straight line, not broken. Chalk lines shall be used to cut insulation components. Uneven or broken edges shall not be accepted. Remove dust and debris that develops during cutting operations.
- E. Stagger successive layers of insulation 12 in vertically and laterally to ensure board joints do not coincide with joints from the layers above and below.
- F. Crickets, saddles, and tapered edge strips shall be installed before installing Cover-boards.
- G. Install tapered insulation, saddles and crickets as required to ensure positive slope for complete roof drainage.
- H. Cover-boards shall be installed to fit tight against adjacent boards. When required by the Cover-board manufacturer, a uniform gap shall be provided between Cover-boards using a uniform guide placed between board joints to form a gap between all boards during installation.
- I. The finished insulation system surface shall be tight to, and flush with, adjacent substrates to form a satisfactory substrate to install specified roof membrane and flashings.
- J. Install specified cants where required for membrane flashing transitions.

3.04 CLEAN-UP

A. Clean-up and properly dispose of waste and debris resulting from these operations each day as required to prevent damages and disruptions to operations.

END OF SECTION

SECTION 074100 STANDING SEAM METAL ROOFING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. This section covers the pre-finished, pre-fabricated Architectural standing seam roof system. All metal trim, accessories, fasteners, Vinyl Back Insulation and sealants indicated on the drawings as part of this section.
- B. Drawings and general provisions of the Contract, including general and Supplementary Conditions and Division 01 Specifications, apply to this section.
- C. Related Work Specified Elsewhere
 - 1. Division 011000 Summary of Work
 - 2. Division 054600 Retrofit Framing and Clip System
 - 3. Division 072200 Insulation 3" Vinyl for standing seam
 - 4. Division 076200 Sheet Metal Flashing and Trim Gutters and Downspouts

1.2 SUMMARY

- A. Section Includes
 - 1. Standing Seam metal roof panels
- B. Related work specified elsewhere.
 - 1. Section 06100 Rough Carpentry
 - 2. Section 07600 Flashing and Sheet Metal
- C. System Summary (Maintenance Garage Roof)
 - 1. Existing 16" Standing Seam Panel roof over Purlins
 - 2. New Retrofit metal frame system to meet IBC Code requirements
 - 3. New 3" Vinyl back insulation
 - 4. New Back Up plates to support flashings
 - 5. New Standing Seam Metal Roofing System
 - 6. New Flashings vented ridge, eave, fascia, rake and Gutters and Downspouts

1.3 DEFINITIONS

A. Metal Roof Panel Assembly: Metal roof panels, attachment system components, and accessories necessary for a complete weathertight roofing system.

B. References:

- 1. American Society for Testing and Materials (ASTM)
 - a. ASTM A 653: Steel Sheet, Zinc Coated by the Hot Dip Process
 - b. ASTM A 792: Steel Sheet, Aluminum-Zinc Alloy Coated by the Hot Dip Process
 - c. ASTM D 1970 Standard Specification for Peel n Stick High Temperature Underlayment
- 2. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
 - a. SMACNA Architectural Sheet Metal Manual, 1993 edition
- 3. Metal Construction Association
- 4. Code References
 - a. ASCE 7-10, Minimum Loads for Buildings and Other Structures
 - b. BOCA National Building Codes
 - c. UBC Uniform Building Code
 - d. SBC Standard Building Code
 - e. IBC International Building Code

1.4 QUALITY ASSURANCE

- A. Manufacturer and erector shall demonstrate experience of a minimum of five (10) years in this type of project.
- B. Installer to provide documentation that they are certified to install and obtain manufacturer's 20 year weather-tight warranty including flashings.
- C. Installer to provide stamped engineering verify the new roof system meets current IBC Code requirements.

1.5 SUBSTITUTIONS

A. The material, products and equipment specified in this section establish a standard for required function, dimension, appearance and quality to be met by any proposed substitution.

1.6 SYSTEM DESCRIPTION

A. Material to comply with:

1. ASTM A792/A792M Standard Specification for Sheet Steel, 55% Aluminum-Zinc Alloy Coated by the Hot-Dip process. Steel to be minimum 24 gauge.

1.6 ROOF SYSTEM PERFORMANCE TESTING

- A. General Performance: Metal roof panels shall comply with performance requirements without failure due to defective manufacture, fabrication, installation or other defects in construction.
- B. Roof System shall be designed to meet 130 mph wind speed including International Building Code Wind Load requirements. Stamped engineering by a Louisiana registered engineer shall be provided to designer of record.

C. Panels to meet:

- 1. Water Penetration: When tested per ASTM E-283/1680 and ASTM E-331/1646 there shall be no uncontrolled water penetration or air infiltration through the panel joints.
- 2. Roof System shall be designed to meet a UL Class 90 wind uplift in accordance with UL standard 580 and panel system shall be ASTM 1592 Tested and approved
- 3. UL 2218 Impact Resistance rated
- D. Insulation See Spec Section 072200

1.7 WARRANTIES

- A. Weathertight warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace standing seam metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period. (Warranty to include flashings, excluding gutters and downspouts)
 - 1. Warranty Period: 30 Years from date of Substantial Completion
- B. Finish warranty: Manufacturer's standard form in which manufacturer agrees to repair finish or replace standing seam metal roof panels that show evidence of deterioration of factory-applied finish within specified warranty period.
 - 1. Exposed Panels Finish deterioration includes the following:
 - a. Color fading more than 5 hunter units when tested according to ASTM D 2244
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214

- c. Cracking, checking, peeling or failure of a paint to adhere to a bare metal.
- 2. Warranty Period: 20 Years from the date of substantial completion
- C. Applicator shall furnish written warranty for a two (2) year period from date of substantial completion of building covering repairs required to maintain roof and flashings in watertight condition.

1.8 SUBMITTALS

- A. Furnish detailed shop drawings showing profile and gauge of exterior sheets, location and type of fasteners, location, gauges, shape and method of attachment of all trim locations and types of sealants, and any other details as may be required for a weather-tight installation.
- B. Stamped Engineering showing roof system meeting 130 mph wind speed. Stamped engineering to provide clip spacing.
- C. Shop drawings: Show fabrication and installation layouts of metal roof panels, metal wall panels or metal soffit panels, details of edge conditions, side-seam joints, panel profiles, corners, anchorages, trim, flashings, closures and accessories, and special details. Distinguish between factory and field-assembled work
- D. Coordination Drawings: Roof plans, drawn to scale, on which the following are shown and coordinated with each other, based on input from installer of the items involved:
 - 1. Roof panels and attachments
 - 2. Roof-mounted items including roof curbs.

1.9 DELIVERY, STORAGE AND HANDLING

- A. Ordering: Comply with manufacturer's ordering instruction and lead time requirements to avoid construction delays.
- B. Deliver components, sheets, metal roof panels and other manufactured items so as not to be damaged or deformed. Package metal roof panels for protection during transportation and handling.
- C. Unload, store and erect metal roof panels in a manner to prevent bending, warping, twisting and surface damage.
- D. Stack metal roof panels on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal roof panels to ensure dryness. Do not store metal roof panels in contact with other materials that might cause staining, denting or other surface damage.

E. Protect strippable protective coating on any metal coated product from exposure to sunlight and high humidity, except to the extent necessary for material installation.

1.10 PROJECT CONDITIONS

- A. Weather Limitations: proceed with installation only when existing and forecasted weather conditions permit metal roof panel work to be performed.
- B. Field Measurements: Verify actual dimensions of construction contiguous with metal roof panels by field measurements before fabrication.

1.11 COORDINATION

- A. Coordinate sizes and locations of roof curbs, equipment supports and roof penetrations with actual equipment provided.
- B. Coordinate metal roof panels with rain drainage work, flashing, trim and construction of decks, parapet walls and other adjoining work to provide a leakproof, secure and noncorrosive installation.

PART 2 - PRODUCTS

2.1 PANEL DESIGN

- A. General: Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates and accessories required for a weathertight installation.
- B. Roof panels shall be standing seam in minimum 24 gauge thickness, 16" widths with 2" high seams that are mechanically seamed together @ 180 degrees.
- C. Panels are recommended to be produced with Striations.
- D. Panels to be designed for attachment with concealed fastener clips, spaced as required by the manufacturer to provide for both positive and negative design loads, while allowing for the expansion and contraction of the entire roof system resulting from variations in temperature.
- E. Forming: Use continuous end rolling method. No end laps on panels.

2.2 ACCEPTABLE MANUFACTURERS

- A. Petersen Aluminum Corp, Tyler, TX, 800-441-8661, Tite-Loc Plus. Basis of Design
- B. Imetco
- C. Prior Approved equals

2.3 MATERIALS AND FINISHES

- A. Preformed roofing panels shall be fabricated of 24 GA Steel
- B. Finish shall be Kynar 500 or Hylar 5000 Fluorocarbon coating with a top side film thickness of 0.70 to 0.90 mil over a 0.25 to 0.3 mil prime coat to provide a total dry film thickness of 0.95 to 1.25 mil, to meet AAMA 621. Bottom side shall be coated with a primer with a dry film thickness of 0.25 mil. Finish shall conform to all tests for adhesions, flexibility and longevity as specified by Kynar 500 or Hylar 5000 finish supplier.
- C. If Strippable coating to be applied on the pre-finished panels to the top side to protect the finish during fabrication, shipping and handling, film shall be removed before installation.
- D. Back Up Plates at all Flashing locations shall be minimum 18 gauge gage galvanized.
- E. Trim: Trim shall be fabricated of the same material and finish to match the profile, and will be press broken in lengths of 10 to 12 feet. Trim shall be formed only by the manufacturer of their approved dealer. Trim to be erected in overlapped condition. Use lap strips only as indicated on drawings.
- F. Closures: use composition or metal profiled closures at the top of each elevation to close ends of the panels. Metal closures to be made in the same material and finish as face sheet.
- G. Vented Ridge: Use a Vented Zee on top of the Zee Closures, include GAF's Cobra Ridge vent material. (keeps blowing rain out of vented zee)
- H. Fasteners: Fasteners shall be of type, material, size, corrosion resistance, holding power and other properties required to fasten miscellaneous framing members to substrates.
- I. Substrate shall be retrofit framing system
- J. Insulation 3" Vinyl Back Insulation
- K. Sealants
 - 1. Provide two-part polysulfide class B non-sag type for vertical and horizontal joints
 - 2. one part polysulfide not containing pitch or phenolic extenders or
 - 3. Exterior grade silicone sealant recommended by roofing manufacturer or
 - 4. One part non-sag, gun grade exterior type polyurethane recommended by the roofing manufacturer.

- 5. Manufacturer's
 - A. Chem Link
 - B. NP1

2.4 FABRICATION

- A. Comply with dimensions, profile limitations, gauges and fabrication details shown and if not shown, provide manufacturer's standard product fabrication.
- B. Fabricate components and assemble units to comply with fire performance requirements specified.
- C. Apply specified finishes in conformance with manufacturer's standard, and according to manufacturer's instructions.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine alignment of structural steel and related supports, primary and secondary roof framing, solid roof sheathing, prior to installation.
- B. For the record, prepare written report, endorsed by installer, listing conditions detrimental to performance of the Work.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 FASTENERS

- A. Secure units to supports
- B. Place fasteners as indicated in manufacturer's standards.

3.3 INSTALLATION

- A. Panels shall be installed plumb and true in a proper alignment and in relation to the structural framing. The erector must have at least five years successful experience with similar applications.
- B. Install metal panels, fasteners, trim and related sealants in accordance with approved shop drawings and as may be required for a weather-tight installation.
- C. Remove all strippable coating and provide a dry-wipe down cleaning of the panels as they are erected.

3.4 DAMAGED MATERIAL

A. Upon determination of responsibility, repair or replace damaged metal panels and trim to the satisfaction of the Architect and Owner.

END OF SECTION

SECTION 076200

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SUMMARY

- A. Work shall include, but is not limited to, the following:
 - 1. Preparation of existing substrates.
 - 2. Sheet metal flashings and sheet metal roof edge system, gutters and downspouts.
 - 3. All related materials and labor required to complete specified roofing necessary to receive specified manufacturer's warranty.

1.02 RELATED SECTIONS

- A. Division 010000 General Requirements
- B. Division 011000 Summary of Work
- C. Division 054600 Retrofit Frame System
- D. Division 072200 Insulation and Cover Board
- E. Division 074100 Standing Seam Metal Roofing

1.03 DEFINITIONS

- ASTM D 1079-Definitions of Term Relating to Roofing, Waterproofing and Waterproofing.
- B. The National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual, Fifth Edition Glossary.

1.04 REFERENCES

- A. AMERICAN SOCIETY OF CIVIL ENGINEERS Reference Document ASCE 7, Minimum Design Loads for Buildings and Other Structures.
- B. AMERICAN STANDARD OF TESTING METHODS (ASTM):
 - 1. ASTM C 920 Standard Specification for Elastomeric Joint Sealants
 - 2. ASTM D 41 Standard Specification for Asphalt Primer Used in Roofing, Damp proofing, and Waterproofing.
 - 3. ASTM D 4586 Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- C. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)::

- 1. ANSI/SPRI/FM 4435/ES-1 Wind Design Standard for Edge System Used with Low Slope Roofing System.
- 2. ANSI/SPRI FX-1, Standard Field Test Procedure for Determining the Withdrawal Resistance of Roofing Fasteners.
- D. INTERNATIONAL CODES COUNCIL (ICC):
 - 2012 International Building Code (IBC).
- E. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA) Roofing and Waterproofing Manual.
- F. SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION INC. (SMACNA) Architectural Sheet Metal Manual.

1.05 ACTION SUBMITTALS

- A. Product Data Sheets: Submit manufacturer's product data sheets, installation instructions and/or general requirements for each component.
- B. Safety Data Sheets: Submit manufacturer's Safety Data Sheets (SDS) for each component.
- C. Sample/Specimen Warranty from the manufacturer and contractor.
- D. Shop Drawings: Provide roof plan and applicable roof system detail drawings.

1.06 INFORMATIONAL SUBMITTALS

A. Contractor Certification: Submit written certification from roofing system manufacturer certifying that the applicator is authorized by the manufacturer to install the specified materials and system.

1.07 CLOSEOUT SUBMITTALS

A. Warranty: Provide manufacturer's and contractor's warranties upon substantial completion of the roofing system.

1.08 QUALITY ASSURANCE

- A. MANUFACTURER QUALIFICATIONS:
 - 1. Manufacture shall have 20 years of experience manufacturing roofing materials.
 - 2. Trained Technical Field Representatives, employed by the manufacturer, independent of sales.
 - 3. Provide reports in a timely manner of all site visit reports.
 - 4. Provide specified warranty upon satisfactory project completion.
- B. CONTRACTOR QUALIFICATIONS:

- Contractor shall be authorized by the manufacturer to install specified materials prior to the bidding period through satisfactory project completion.
- 2. Applicators shall have completed projects of similar scope using same materials as specified herein.
- 3. Contractor shall provide full time, on-site superintendent or foreman experienced with the specified roof system through satisfactory project completion.
- 4. Applicators shall be skilled in the application methods for all materials.
- 5. Contractor shall maintain a daily record, on-site, documenting material installation and related project conditions.
- 6. Contractor shall maintain a copy of all submittal documents, on-site, available at all times for reference.

1.09 DELIVERY, STORAGE AND HANDLING

- A. Refer to each product data sheet or other published literature for specific requirements.
- B. Deliver materials and store them in their unopened, original packaging, bearing the manufacturer's name, related standards, and any other specification or reference accepted as standard.
- C. Protect and store materials in a dry, well-vented, and weatherproof location. Only materials to be used the same day shall be removed from this location.
- D. When materials are to be stored outdoors, store away from standing water, stacked on raised pallets or dunnage, at least 4 in or more above ground level. Carefully cover storage with "breathable" tarpaulins to protect materials from precipitation and to prevent exposure to condensation.
- E. Properly dispose of all product wrappers, pallets, cardboard tubes, scrap, waste, and debris. All damaged materials shall be removed from job site and replaced with new, suitable materials.

1.10 SITE CONDITIONS

A. SAFETY:

- 1. The contractor shall be responsible for complying with all project-related safety and environmental requirements.
- 2. The contractor shall refer to product Material Safety Data Sheets (MDS) for health, safety, and environment related hazards, and take all necessary measures and precautions to comply with exposure requirements.

B. ENVIRONMENTAL CONDITIONS:

1. Monitor substrate temperature and material temperature, as well as all environmental conditions such as ambient temperature, moisture, sun,

cloud cover, wind, humidity, and shade. Ensure conditions are satisfactory to begin work and ensure conditions remain satisfactory during the installation of specified materials. Materials and methods shall be adjusted as necessary to accommodate varying project conditions. Materials shall not be installed when conditions are unacceptable to achieve the specified results.

2. Precipitation and dew point: Monitor weather to ensure the project environment is dry before, and will remain dry, during the application of roofing materials. Ensure all roofing materials and substrates remain above the dew point temperature as required to prevent condensation and maintain dry conditions.

1.11 PERFORMANCE REQUIREMENTS

A. ROOF EDGE SYSTEM:

 Performance testing shall be in accordance with ANSI/SPRI/FM 4435/ES Wind Design Standard for Edges Systems Used with Low Slope Roofing Systems. To meet ASCE 7-10.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. PRODUCT QUALITY ASSURANCE PROGRAM: Manufacturer shall be an ISO 9001 registered company. A 'Quality Compliance Certificate (QCC) for reporting/confirming the tested values of the materials will be supplied upon request.
- B. ACCEPTABLE MANUFACTURER:
 - 1. Petersen Aluminum Corporation
 - 2. Imetco
 - Prior Approved equal
- C. Contractor shall furnish all sheet metal flashings, counter flashings, roof edge system, and all other related sheet metal flashings, fasteners and sealants necessary to flash and counter flash the specified roofing system at all roof terminations, transitions and penetrations.
- D. Sheet metal flashing materials and fasteners shall be compatible with adjacent materials, to accommodate all project related exposures.
- E. Pre-Finished Sheet Metal Flashing Material: Galvanized.

2.02 SHEET METAL FLASHING

A. SHEET METAL, ROOF EDGE SYSTEM:

- Roof edge system shall include all components and associated fasteners necessary to comply with specified performance requirements. Contractor to shop break flashings and provide all other related fasteners and sealants necessary for the roof edge system.
 - a. Material: 22 gauge Cleat with 24 gauge face material
 - b. Gauge/Thickness: 22 gauge/24 gauge
 - c. Finish: Kynar 500 Color selected from manufacturer's color chart.

2. GUTTERS AND DOWNSPOUTS:

- a. Material: 24 gauge Kynar 500
- b. Gutter to be minimum 6" x 6"
- c. Downspout to be minimum 5x5
- 3. REGLET AND FLASHING: Engineered, formed metal counterflashing metal.
 - a. Material: Stainless Steel
 - b. Gauge/Thickness: 24 gauge

B. FASTENERS:

- 1. #9 Stainless Steel Screw w/ Neoprene Washer
 - a. Length as required.
- 2. #12 Galvanized Self-Drilling Screw:
 - a. Length as required.
- 3. Stainless Steel Ring Shank Nails:
 - a. Length as required.
- 4. 3/16" Tapcon Screws:
 - a. Length as required.
- 5. Flat Head Screw w/ Extruded Washer:
 - a. Length as required.
- 6. Masonry Pins
 - Length as required

C. GENERAL PURPOSE SEALANT

- 1. General purpose, paintable, gun-grade, elastomeric, polyether moisture curing sealant for sealing membrane terminations, Kynar 500 PVDF, horizontal and vertical construction joints.
 - a. VOC Content: 20 g/L or less.
 - b. Meets or exceeds ASTM C920, Type S, Grade NS, Class 50.
 - c. Standard color,
- 2. Butyl Sealant: Butyl rubber and polyisobutylene water resistant sealant for concealed sheet metal joints.
- 3. Butyl Sealant Tape: Butyl rubber and polyisobutylene water resistant sealant tape for concealed sheet metal joints.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examination includes visual observations, qualitative analysis, and quantitative testing measures as necessary to ensure conditions remain satisfactory throughout the project.
- B. The contractor shall examine all roofing substrates including, but not limited to: insulation materials, roof decks, walls, curbs, rooftop equipment, fixtures, and wood blocking.
- C. The applicator shall not begin installation until conditions have been properly examined and determined to be clean, dry and, otherwise satisfactory to receive specified roofing materials.
- During the application of specified materials, the applicator shall continue to examine all project conditions to ensure conditions remain satisfactory to complete the specified roofing system.

3.02 PREPARATION

- A. Before commencing work each day, the contractor shall prepare all roofing substrates to ensure conditions are satisfactory to proceed with the installation of specified roofing materials. Preparation of substrates includes, but is not limited to, substrate repairs, securement of substrates, eliminating all incompatible materials, and cleaning.
- B. Where conditions are found to be unsatisfactory, work shall not begin until conditions are made satisfactory to begin work. Commencing of work shall indicate contractor's acceptance of conditions.

3.03 SHEET METAL FLASHING APPLICATION

- A. Refer to manufacturer's sheet metal flashing and roof edge system detail drawings, and follow product data sheets and published general requirements for installation instructions.
- B. General Requirements:
 - 1. Follow the most recent edition of the SMACNA Architectural Sheet Metal Manual for fabrication and installation requirements.
 - Follow the most recent edition of the NRCA Roofing and Waterproofing Manual for fabrication and installation requirements for specified roofing and flashing.
- C. Isolate all metal components from ACQ treated wood or other incompatibles material using specified membrane flashing materials.

D. Appliances such as lightning rods, signs, or antennae shall be separate from the roof edge system.

3.04 GENERAL PURPOSE SEALANT

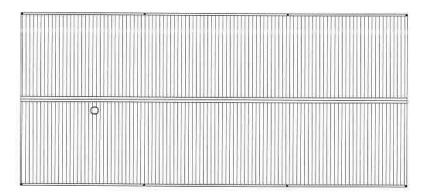
- A. Refer to published installation instructions. Ensure sheet metal and adjacent substrates are clean and free of oils, dust and other incompatible materials.
- B. Apply general purpose, paintable, gun-grade, elastomeric, polyether moisture curing sealant to seal SBS and PVC membrane terminations, exposed fasteners, Kynar 500 PVDF, and other compatible sheet metal horizontal and vertical joints, laps and transitions.

3.05 CLEAN-UP

A. Clean-up and properly dispose of waste and debris resulting from these operations each day as required to prevent damages and disruptions to operations.

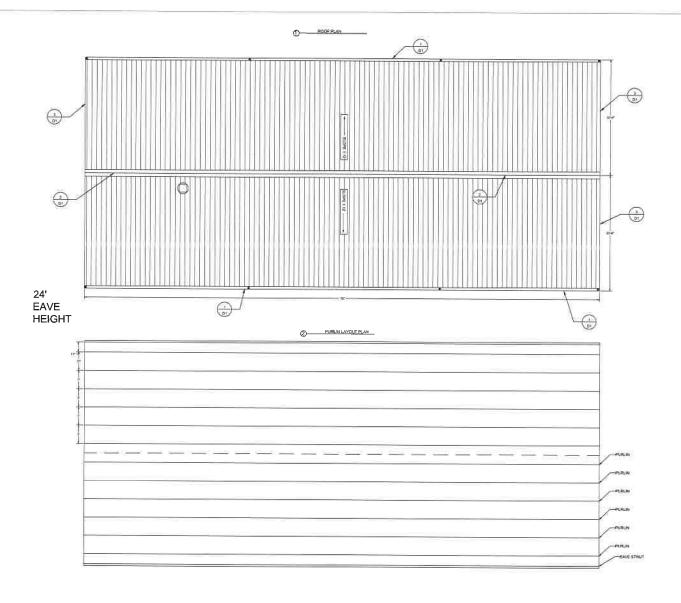
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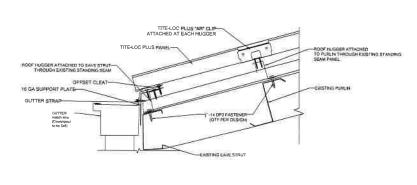


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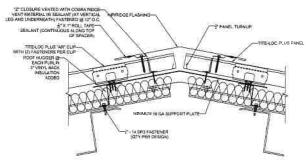
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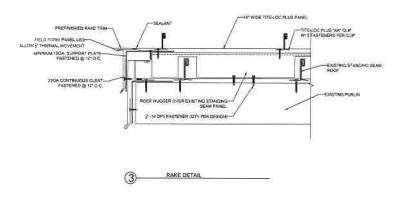
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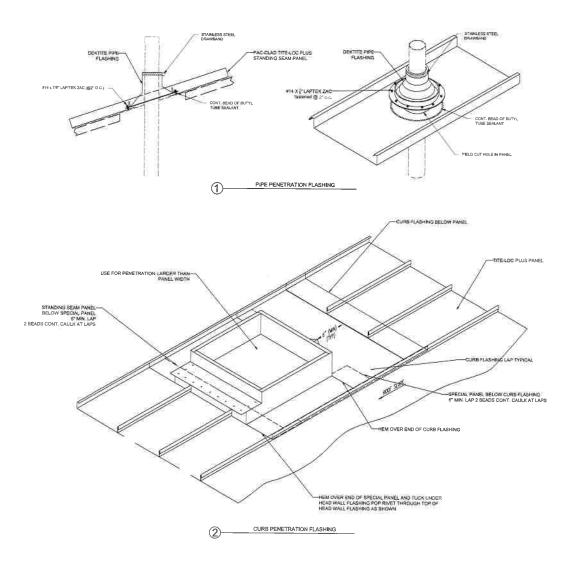
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