

Project Manual

Client:..... McHenry County College
Date:November 1, 2019
File No.: 19-129

Roof Rehabilitation Program Building “E” McHenry County College 8900 US Hwy 14 Crystal Lake, Illinois

I HEREBY CERTIFY THAT
THESE DOCUMENTS HAVE
BEEN PREPARED UNDER MY
SUPERVISION AND TO THE
BEST OF MY KNOWLEDGE
CONFORM WITH ALL
APPLICABLE BUILDING CODES
AND ORDINANCES.

THOMAS F. ZORDAN, AIA
IL Arch Lic. #001-014575
Expires 11-30-2020

Architectural
Consulting
Group,
Ltd. **ACG**

422 N. Hough Street – Barrington, IL 60010 ■ 847-277-1900 ■ www.ACG-Ltd.net

PROJECT MANUAL

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Roof Rehabilitation Program
Building "E" McHenry County College
Crystal Lake, IL

Date: November 1, 2019

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PROCUREMENT AND CONTRACTING REQUIREMENTS

00 10 00- Solicitation

The Owner /Agent:

McHenry County College
8900 US Hwy 14
Crystal Lake, IL

The Project:

Roof Rehabilitation Program
Building "E" McHenry County College
Crystal Lake, IL 60012

PROJECT DESCRIPTION:

McHenry County College is accepting bids for a Roof Rehabilitation Program at Building "E" of the McHenry County College Campus located at 8900 US Hwy 14 in Crystal Lake, IL.

The in place roof system consists of a Rock ballasted single-ply EPDM membrane and flashings system over rigid insulation supported by a metal deck.

The Base Bid Program includes removing the roof surface of existing rock ballast, cutting out and repairing any and all roof irregularities and installation of a new single-ply recovery system over the existing roof system. Alternate bids are also being requested.

SCOPE OF WORK:

Base Bid: [Roof Recovery (20-year NDL warranty) New Fully Adhered 45 mill PVC/KEE or 60mill TPO Single-ply Membrane Recovery System / Existing Roofing Assembly Repair/Prep / Sheet Metal Flashings and Related Metal Work]

Work shall consist of the complete removal and replacement of sheet metal flashings and coping caps with safe removal and storage of the existing roof mounted equipment inclusive of vent hoods as necessary to accommodate the installation of the new single-ply roof system. Safely disconnect RTUs and related equipment as necessary to accommodate new roofing.

The existing rock ballast shall be removed and disposed of inclusive of pad supports below RTU's and gravel stop edges at penthouse locations. Roof area to be inspected for any irregularities, blistering, or deterioration and areas of wet insulation and deteriorated decking replaced under unit price provisions. Existing membrane flashings shall be removed at the perimeter parapet walls. The curb flashings and area of equipment remaining in place shall be cut 3" below the upper edge of the equipment curbs and remaining section removed. The entire membrane surface shall be left in place and swept clean. Any areas of wet insulation and/or damaged metal decking shall be removed and replaced under unit price provisions.

Install new mechanically fastened recover board over the entire field of the main and penthouse roofs. Roll out new single-ply membrane and allow membrane to "relax" prior to installation. Install new treated wood blocking at existing curbs and extend pipe vents as required to ensure minimum 8" flashing heights in all instances. Damaged drains shall be replaced under Unit Price provisions. Install new fully adhered assembly in accordance with manufacturer guidelines to achieve wind up lift ratings of FMI-90. Clean and weld membrane seams as recommended by membrane manufacturer, shingling all membrane laps with the slope of the roof deck. Mechanically fasten roof membrane at all terminations, penetrations and at the roof perimeter as required.

Membrane flashings shall be fully adhered to all curbs and vertical transitions and secured with mechanical fasteners and/or rush strips as required. The membrane flashings at the RTU units shall be fully adhered and wrapped under the original EPDM membrane followed by a 1" seal buytl tape between the two membranes and surface mounted termination bar and subsequent sheet metal counter flashings. Membrane flashings shall extend over the parapet walls and roof transitions with new wood blocking and sheet metal coping caps New base flashing membranes shall not extend more than 24" above the roof surface or per manf. recommendations and shall be secured with a termination bar. Adhere additional plies of flashing membrane lapped over the base flashing to cover the remainder of the wall and mechanically fasten as required by the manufacturer.

PROCUREMENT AND CONTRACTING REQUIREMENTS

00 10 00- Solicitation

Install new prefabricated pipe boot flashings and pitch pans. Install new sheet metal flashings, counter-flashings, gravel stop edges, and related metal work. Install new sealant/caulking. Provide cover tape between all metal and membrane surfaces. Follow all manufacturer requirements and installation guidelines.

Existing walking pavers to be raised and reset. Provide sacrificial under pavers. Replace damaged pavers under unit price provisions.

Alternate Bids:

Alternate Bid 1: [80 mil TPO or 45mil PVC/KEE reinforced sheet, (20-year NDL warranty)]

- In lieu of 60 mil TPO / 45mil PVC/KEE membrane install new 80 mil TPO or 60mil PVC/KEE membrane. Remainder of work to remain same.

Alternate Bid 2: [New walkway pavers]

- In lieu of raising and resetting existing walkway pavers, provide price to install new walkway pavers. Remainder of work to remain same.

GENERAL BUILDING DATA:

The roof areas inclusive of the penthouses at Building "E" totals approximately 30,684 square feet. Positive slope appears to be present in the underlying tapered insulation to the interior located drains. There are (2) large roof top units located on the roof. Other penetrations include (1) large skylight, gas and conduit lines, small roof top units, soil stacks, and vents

According to our test cuts, the low-slope roof system at the main roof consists of a rock ballasted loose-laid EPDM roof system over 2" rigid polyisocyanurate insulation supported by a metal deck. The perimeter of the roof area is terminated by either masonry parapet wall and sheet coping caps or masonry wall with surface mounted counter flashings.

BID REQUIREMENTS:

Bids are to be submitted on a lump sum basis, with provisions for additional Unit Price quantities of work. Bids are to be submitted on the forms attached in the Project Manual, in accordance with the requirements set forth in the Instructions to Bidders.

GENERAL BIDDING INFORMATION:

Address and deliver one (1) copy of original bids along with a copy of flash drive to:

Jennifer Jones
Director Business Services
McHenry County College
8900 US Hwy 14, A246
Crystal Lake, IL 60012
P: 815-455-8770
jjones@mchenry.edu

Forward technical questions to this office

Architectural Consulting Group, Ltd.

c/o: Mark Pankiewicz
422 N. Hough Street
Barrington IL 60010
Phone: 847.277.1900
Fax: 847.277.1300
Email: Mpankiewicz@acg-ltd.net

PROCUREMENT AND CONTRACTING REQUIREMENTS

00 10 00- Solicitation

BID ISSUED DATE: December 6, 2019

PRE-BID MEETING: December 12, 2019 – 8:00AM
McHenry County College, 8900 US Highway 14, Building A, Room 217

BID DUE DATE: January 15, 2019 - Noon
McHenry County College, 8900 US Highway 14, Building A, Room 246

BID OPENING: January 16, 2019 – 8:00AM
McHenry County College, 8900 US Highway 14, Building A, Room 217

BIDDER REMINDERS:

A 10% Bid Bond is required.

Include the cost of a Performance and Payment Bond in your Bid.

Cost for a Performance and Payment Bond shall be shown as a Unit Price extra.

Architectural Consulting Group, Ltd.

END OF SOLICITATION SECTION

DIVISION 00 PROCUREMENT AND CONTRACTING REQUIREMENTS

Section 00 20 00 - Instructions for Procurement

GENERAL:

Proposals entitled for consideration must be prepared and submitted in accordance with the following instructions.

BID METHOD:

Bids shall be made on a stipulated lump-sum basis for the entire project. Fill in all items required for full bid on the Bid Form and submit to Owner and Owner's Representative as required. All prices quoted shall be honored for a period of forty-five (45) calendar days after the bid date.

BONDS:

BID BOND: A Bid Guarantee will be required for each bid submitted, in the form of a bid bond, cashier's check, certified check or money order in the amount of 10% of the Base Bid amount. The Bid Guarantee shall be made out to Ownship and shall be used as a guarantee that the bidder will not withdraw his bid after the date and time set for the bid opening. Bid Guarantees will be returned promptly upon the approved execution of the Contract and Performance Bond.

PERFORMANCE & PAYMENT BONDS: A performance and payment guarantee will be required of the successful bidder and shall be mailed or delivered to the Owner. Execution of the agreement/contract will be made once Owner receives the Performance & Payment Bonds. The performance guarantee shall be in the form of a performance and labor/material payment bond(s) in the amount of One Hundred Percent (100%) of the Contract Amount, including alternates as selected by the Owner. The bond shall also guarantee the faithful performance of the Contractor's obligations under the Prevailing Wage Act. The aforementioned bond shall be issued for a 365-day period subsequent to the date of substantial completion, and shall also include the Contract Time, as defined in these Contract Documents. The bond shall be issued by a surety company which is acceptable to the Owner. Upon the Owner's receipt and acceptance of a performance and labor/material payment bond(s), the Owner shall promptly return the Contractor's bid guarantee.

CONDITIONS:

1. The existing building must remain in operation 100 percent of the time. Any demolition required shall proceed only at the direction of the Owner's Representative according to schedules as mutually agreed upon. Exterior and interior protection shall be required at areas of work.
2. Before submitting a Bid, Bidders shall carefully examine the PROJECT MANUAL, visit the site, fully inform themselves as to all existing conditions, and shall include in the Bid a sum to cover the cost of all such items affecting the work.
3. No Bidder to whom a Contract is awarded shall be allowed extra compensation on account of any matter or thing which Bidder could have made him/her aware of prior to Bidding.
4. All cutting, patching and repair for damage resulting from new work is to be the responsibility of the Contractor.
5. All rubbish resulting from work by this Contractor is to be removed from site and legally disposed of. Storage of materials to be in areas designated by the Owner and/or shown on the drawings.
6. Building exteriors, interiors, and grounds must be protected against damage that might result

DIVISION 00 PROCUREMENT AND CONTRACTING REQUIREMENTS

Section 00 20 00 - Instructions for Procurement

from this work. Any damage caused by the Contractor shall be his responsibility and shall be repaired at his expense.

7. Bids are to be submitted on a lump sum basis, based on estimated quantities listed in the bid form and unit prices provisions by the bidder.
8. Bids are to be submitted on the forms attached in the Project Manual, in accordance with the requirements set forth in the Instructions to Bidders.
9. The Bidder agrees to hold the bid open until 45-calender day after the Bid Opening.
10. If permits are required, contactor to file for permits and provide documentation of payment
11. The Bidder shall include cost in their bid for all required Federal, State and Local taxes with the submission of their bid.
12. The Bidder agrees to work at least five full working days a week, when weather permits.
13. Work shall be conducted during the week between the hours of 8:00 AM to 4:30 PM. No work shall be performed on weekend or Holidays unless prior approval by the Ownership and/or managing agent.

PRE-BID MEETING: December 12, 2019 – 8:00AM
McHenry County College, 8900 US Highway 14, Building A, Room 217

BID DUE DATE: January 15, 2019 - Noon
McHenry County College, 8900 US Highway 14, Building A, Room 246

BID OPENING: January 16, 2019 – 8:00AM
McHenry County College, 8900 US Highway 14, Building A, Room 217

REQUIREMENTS FOR SIGNING BIDS:

1. Bids which are signed for a partnership shall be signed by all the partners, or by an attorney-in-fact. If signed by an attorney-in-fact, a power of attorney evidencing the authority to sign the Bid, executed by the partners shall be attached with the submitted bid.
2. Bids which are signed for a Corporation shall have the correct corporate name.

PRESENTATION OF BIDS:

(1) Sealed hardcopy and (1) copy of bid on a flash drive must be delivered to;
Jennifer Jones, Director of Business Services
McHenry County College
8900 US Highway 14
Building A, Room A246
Crystal Lake, IL 60012

All Bids are to be signed in ink, with Bid prices clearly written or typed numerically and in words. In the event of any conflict between figures and words, the worded price will govern. The Owner will **publicly** open and review Bid results with the Architect. Bidding Contractors will be notified of Owner's decision to award a Contract subsequent to bid reviews.

END OF INSTRUCTIONS FOR PROCUREMENT SECTION

DIVISION 00 PROCUREMENT AND CONTRACTING REQUIREMENTS

Section 00 41 13 - Bid Form

The Owner:

The Project:

McHenry County College
8900 US Hwy 14
Crystal Lake, IL

Roof Rehabilitation Program
Building "E" McHenry County College
Crystal Lake, IL 60012

Sealed Original with a copy on flash drive will be due on:

BID DUE DATE: January 15, 2019 - Noon
McHenry County College, 8900 US Highway 14, Building A, Room 246

BID OPENING: January 16, 2019 – 8:00AM
McHenry County College, 8900 US Highway 14, Building A, Room 217

Original Bids To:
Jennifer Jones
Director of Business Services
McHenry County College
8900 US Hwy 14
Phone: 815.455-8770
jjones@mchenry.edu

Forward Technical Questions to:
Mark Pankiewicz
Architectural Consulting Group, Ltd
422 N. Hough Street
Barrington, IL 60010
Office: 847-277-1900
Mpankiewicz@acg-ltd.net

Bid From:

(Bidder's Company Name)

(Bidder's Address) (Bidder's Phone No.)

_____ Date: _____, 20__

(City, State) (Month, Day)

(E-mail Address)

THE UNDERSIGNED:

1. Acknowledges Receipt Of:
 - a. PROJECT MANUAL:

Roof Replacement Program
Building "E" McHenry County College
Crystal Lake, IL
ACG File No.: 19-129
 - c. ADDENDA:

No. _____ Dated _____, 20 _____
No. _____ Dated _____, 20 _____
No. _____ Dated _____, 20 _____
2. Has examined the PROJECT MANUAL and DRAWINGS and all field conditions and herein agrees to:
 - a. To hold this bid open for a period of Forty-five (45) calendar days after bid opening.
 - b. To enter into and execute a contract with the Owner, which will be awarded on the basis of this bid and connection therewith to furnish all bonds and insurance required in the PROJECT MANUAL within fourteen days after notice to proceed.
 - c. To Obtain any and all permits required to perform the work and to accomplish the work in



BID FORM-1

Roof Rehabilitation Program
Building "E" McHenry County College
ACG File No.: 19-129

DIVISION 00 PROCUREMENT AND CONTRACTING REQUIREMENTS

Section 00 41 13 - Bid Form

- d. accordance with the Contract.
 To accomplish the work in accordance with the Contract Documents for the sum of money as outlined herein and completed the work within the proposed time frame after notice to proceed.

PROJECT DESCRIPTION AND SCOPE OF WORK:

Refer to Section 00 10 00 - Solicitation, for this information.

BIDDER REMINDERS:

- A 10% Bid Bond is required.**
- Include the cost of a Performance & Payment Bond in your Bid.**
- Cost for a Performance & Payment Bond shall be shown as a Unit Price extra.

BASE BID:

A Low-Slope Roof Replacement – Mechanically Fastened Single-Ply System
[Roof Replacement (20-year NDL warranty) – Mechanically fastened Cover Board / Smooth Surface Mechanically fastened Single-ply TPO / PVC/KEE membrane (color: white) / Sheet Metal Flashings & Related Metal Work]

ITEM	DESCRIPTION	EST. QTY	LUMP SUM
1)	Mobilization, General Provisions, Overhead, Profit	100%	\$ _____
2)	Building “E” – Low Slope Roof Replacement	100%	\$ _____
Total Base Bid: The bidder agrees to complete all Base Bid (items 1 and 2) work inclusive of all labor and materials required in order to perform for the TOTAL sum of:			\$ _____

Written Dollar Amount: _____

Alternate Bid 1: [80 mil TPO or 45mil PVC/KEE reinforced sheet, (20-year NDL warranty)]	
Total Alternate Bid 1: The bidder agrees to completed all Alternate Bid 1 work inclusive of all labor and materials required for the ADDITIONAL sum of:	[ADD] \$ _____
Written Dollar Amount: _____	

Alternate Bid 2: [New walkway pavers]	
Total Alternate Bid 2: The bidder agrees to completed all Alternate Bid 2 work inclusive of all labor and materials required for the ADDITIONAL sum of:	[ADD] \$ _____
Written Dollar Amount: _____	

DIVISION 00 PROCUREMENT AND CONTRACTING REQUIREMENTS

Section 00 41 13 - Bid Form

UNIT PRICES:

For additional work found to become necessary during the course of the work, inclusive of labor/installation, as identified in the Specifications:

Item	Description	Unit Area	Unit Cost
A	Replace Metal Decking – Match Existing	per 3' x 15' sheet	\$
B	Replace Treated Wood Framing	each	\$
	a. 2" x 4" x 8'	per board	\$
	b. 2" x 6" x 8'	per board	\$
	c. 2" x 8" x 8'	per board	\$
C	2" Rigid Polyisocyanurate insulation	Per 4' x 8'	\$
D	Replace Drain Assembly	per unit	\$
E	Grind and Re-point Masonry	per square foot	\$
F	Modular Brick Replacement – Match Existing	each	\$
G	For Misc. Work Over Contract:		
	d. Roofer	per man hour	\$
	e. Sheet Metal Mech.	per man hour	\$
	f. Mason	per man hour	\$
	g. Laborer	per man hour	\$
H	Additional Material Cost – "mark-up" Over Cost	material cost plus...	%
I	Performance and Payment Bond	percentage of total Contract	%

PROJECT TIME:

If awarded this Contract, we will substantially complete all work as described within the time frame listed below:

BASE BID:

Start Date: _____ Completion Date: _____

Aprox. Number of Working Days Required: _____

DIVISION 00 PROCUREMENT AND CONTRACTING REQUIREMENTS

Section 00 41 13 - Bid Form

SUBCONTRACTOR LIST:

If portions of the work will be performed by Contractors other than the Bidder endorsing this Bid Form, list all Subcontractors below:

_____	:	_____
(Type of work)		(Subcontractor name)
_____	:	_____
(Type of work)		(Subcontractor name)
_____	:	_____
(Type of work)		(Subcontractor name)

FIRM NAME: _____

ADDRESS: _____
(street address) (city) (state)

TELEPHONE: () _____ Fax: () _____

EMAIL: _____

SUBMITTED BY: _____ TITLE: _____
(print name)

AUTHORIZED SIGNATURE: _____

Corporate Seal

IN SUBMITTING THIS BID, IT IS UNDERSTOOD THAT THE OWNER RESERVES THE RIGHT TO REJECT ANY AND ALL BIDS, AND IT IS AGREED THAT THIS BID MAY NOT BE WITHDRAWN FOR A PERIOD OF FORTY-FIVE (45) DAYS FROM THE BID OPENING DATE.

DIVISION 00 PROCUREMENT AND CONTRACTING REQUIREMENTS

Section 00 72 13 - General Conditions of Contract

1. GENERAL CONDITIONS

- A] The "General Conditions of the Contract for Construction" latest edition AIA Document A201, 2007 edition is hereby incorporated into the Contract Documents by reference in the same force and effect as if repeated herein. Division I - General Requirements, Section 1.1 - Supplementary General Conditions and Summary of Work is hereby incorporated by reference in the same force and effect as if repeated herein, as amended by the Supplementary Conditions.

2. SUPPLEMENTARY CONDITIONS

A] PROJECT MANUAL

Should any error or inconsistency appear in the PROJECT MANUAL, the Contractor must make mention of the same to the Architect for proper adjustment, and in no case proceed ahead with the work in question.

Should a real or alleged conflict or ambiguity be discovered after submission of the Bids, the Contractor shall be deemed to have estimated the work on the provisions and interpretations as directed by the Architect. This provision shall not require the performance of any work unless such work is covered within the PROJECT MANUAL or is reasonably inferable therefrom as being necessary to produce the intended results.

If the language of the PROJECT MANUAL contains real or alleged unclear, ambiguous or conflicting words, phrases or sentences, they shall be interpreted by the Architect based upon complimentary provisions, the context of the item in question and the intent of the procedure.

B] PAYMENTS TO CONTRACTOR

Once each month, the Owner shall make partial payment to the Contractor on the basis of an approved estimate of work performed under this Contract. The Owner shall retain ten (10) percent of the amount of each estimate until final completion. Payment will be made only for materials incorporated into the work to be performed under this Contract. A Waiver of Lien from each Subcontractor and Contractor's Affidavit shall accompany each request for payment.

C] CERTIFICATION OF RETAINAGE

Amounts to be retained will be as follows:

--Ten (10) percent of the Contract will be retained until substantial completion of the project. Upon completion of the work, approval by the Architect, and acceptance by the Owner, final payment will be made, including retained percentages, within thirty (30) days.

DIVISION 00 PROCUREMENT AND CONTRACTING REQUIREMENTS

Section 00 72 13 - General Conditions of Contract

D] TEMPORARY UTILITIES / FACILITIES

Only water and electrical power will be available from the existing building. Prior arrangements with Owner by the Contractor shall be secured for installation of all temporary utilities. The building area included in the Contract is occupied at all times.

E] PROTECTION OF EXISTING STRUCTURE AND LANDSCAPING

During performance of the work as required by these specifications, the Contractor shall take precautions as necessary to avoid damaging the building's exterior walls, glass, paving, shrubbery, trees, sidewalks, etc. adjacent to the buildings. It is the Contractor's responsibility to provide a pre-construction survey of all damages prior to the start of all work. Damage to any area of the building, its roof, structure, or its surroundings shall be restored at the expenses of the Contractor. The Contractor shall include temporary protection at all driveways, public sidewalks and streets where required by the Village/City.

F] FORM OF CONTRACT

The Successful Bidder will sign a completed AIA A101, 2007 edition; Contract Agreement between Owner and Contractor an additional contract provided by Owner (*Refer to Attachment at the end of this Section*).

G] CONTRACTOR'S ACCESS AND USE OF THE SITE

All operations are restricted to the designated Base Bid area of work. All activity, traffic, material storage, etc. is to take place only in areas designated by the owner.

Work Hours: Monday – Friday 8:00 am to 4:30 pm
Saturday/Sunday & Holidays – Work upon Prior Written Approval by Management.

Contractor set-up areas shall be restricted to the areas as determined by the Owner/Management.

H] INTERIOR DOCUMENTATION

Existing interior conditions shall be available for review and documented prior to the start of any construction. Documentation will be the responsibility of the Contractor and performed in cooperation with the Owner.

I] **Protective Canopy:** Canopy Protection shall be the responsibility of the Contractor to provide and maintain protection per current Village/City requirements during the construction period.

J] **Scaffolding Operators:** Contractor's representative (2- Stage Operators and 1 ground crew) shall have good communication skill and must be present on the stage 100% of the time during the examination of work by the Architect and/or Engineer.

END OF GENERAL CONDITIONS OF CONTRACT SECTION

DIVISION 1 - GENERAL REQUIREMENTS

Section 01 11 13 - Work Covered by Contract Documents

1.01 WORK INCLUDED

A. Contractor's Duties:

1. Except as specifically noted, provide and pay for:
 - a. Labor, materials and equipment.
 - b. Other facilities and services necessary for proper execution and completion of the work.
2. Pay all required consumer sales and use taxes.
3. Purchase and secure as required and necessary for proper execution and completion of the work.
 - a. Permits as required by the local governing public authority and paid by the Contractor.
4. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities, which bear upon the performance of the work.
5. Enforce strict disciplines and good order among employees. Do not employ for this work:
 - a. unfit or un-qualified persons.
 - b. persons not skilled in assigned tasks.

B. Base Bid Work:

1. The Contractor shall provide all materials and labor necessary to complete the project as specified and detailed throughout the Project Manual and Detail Drawings as indicated.
2. The Contractor shall have skilled workers knowledgeable in the tasks at hand to provide a professional finish product upon completion.

C. Scope of Alternate Work:

1. Refer to Section 01 26 33 for more information.

1.02 RELATED REQUIREMENTS

1. 00 10 00 - Solicitation
2. 00 20 00 - Instructions for Procurement
3. 00 41 13 - Bid Form
4. 00 72 13 - General Conditions of Contract
5. 01 22 13 - Unit Price Measurement and Payment
6. 01 26 63 - Change Order Procedures
7. 01 29 73 - Payment Procedures and Schedule of Values
8. 01 33 23 - Submittals, Shop Drawings, Product Data and Samples
9. 01 40 00 - Quality Requirements and Inspections
10. 01 51 00 - Temporary Facilities and Protection
11. 01 77 13 - Project Closeout Procedures and Submittals
12. 01 78 36 - Product Warranties
13. 02 41 19 - Selective Demolition and Debris Removal
14. 07 22 00 - Insulation
15. 07 52 13 - Modified Bituminous Membrane Roofing

1.03 WORK OF OWNER

1. Assist in obtaining access for Contractor personnel.
2. Coordinate schedule with Contractor.

DIVISION 1 - GENERAL REQUIREMENTS

Section 01 11 13 - Work Covered by Contract Documents

1.04 WORK BY OTHERS

- A. Owner's Representative: The Owner's Representative will act as Observer for the project.
 - 1. Perform on-site observation of construction operations.
 - 2. Notify the Owner regarding Contractor's conformance with the Contract Documents.

1.05 WORK SEQUENCE

- A. Perform work to accommodate the Owner's use of the premises during the construction period. Coordinate the construction sequence schedule and operations with the Owner.

1.06 CONTRACTOR'S USE OF PREMISES

- A. Contractor shall limit his use of the premises for work and for storage to allow for:
 - 1. Owner occupancy
 - 2. Public use
- B. Coordinate the use of the premises under the direction of the Owner and/or the Architect. Obtain full knowledge of all site rules and regulations affecting work.
- C. Assume full responsibility for the protection and safekeeping of products and materials stored on the site for use under this Contract.
- D. Move any stored product or materials, under this Contractor's control, which interferes with the operations of the Owner.
- E. Obtain at no additional cost to the Owner, additional storage or work areas needed for the repair operations.
- F. DO NOT OVERLOAD THE STRUCTURE.
- G. Assume full responsibility for protection and safekeeping of products stored on premises.

1.07 OWNER OCCUPANCY

- A. The Owner will occupy the premises during the entire period of construction for the conduct of normal operations. Cooperate with all construction operations to minimize conflict and to facilitate the Owner's usage.
- B. Contractor shall at all times conduct his operations as to insure the least inconvenience to general public.

END OF WORK COVERED BY CONTRACT DOCUMENT SECTION

DIVISION 1 - GENERAL REQUIREMENTS
Section 01 22 13 - Unit Price Measurement and Payment

PART I – GENERAL

1.01 DESCRIPTION

A. Related requirements specified elsewhere:

1. 00 10 00 - Solicitation
2. 00 20 00 - Instructions for Procurement
3. 00 41 13 - Bid Form
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15. 07 52 13 – APP Modified Roofing

B. Definition: Unit price means a fixed price, including all overhead, profit and all other costs of whatever nature and character, for a specified unit of work. Unit prices as such will not be used to determine the lowest responsible bidder. The Owner may reject or negotiate any unit price which it considers excessive or unreasonable. The Owner may at any time order an increase or decrease in the number of units of work.

C. Unit Pricing will be used to apply to those estimated quantities which are deemed under and over the scope of the defined work. If the quantity of Base Bid Work is decreased from the estimated quantities provided, the Owner will be subject to a "Credit" of the remaining Work, not performed by the Contractor. Likewise, if the Base Bid Work proves to be increased from the estimated quantities provided, then the Contractor is subject to "additional payment" under the Unit Price Provisions and will follow Section 01 26 63, Change Order Procedures to apply for such additional work provided. The Architect/Engineer shall verify all performed Work and maintain records of quantities of work performed by the Contractor.

PART 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT

A. As specified in the respective specifications sections.

PART 3 - EXECUTION

3.01 APPLICATION

A. Enter unit prices for each unit of work in Bid Form.
Omission may result in rejection of bid.

DIVISION 1 - GENERAL REQUIREMENTS
Section 01 22 13 - Unit Price Measurement and Payment

3.02 UNIT PRICES REQUIRED

A. Description of Work:

- A. Provide a Unit Price for the removal and replacement of additional areas of damaged or deteriorated metal decking. Unit Pricing shall be based on a per 45 sq. ft. (3' x 15') basis.
- B. Provide a unit price for providing and installing new treated wood blocking as required to replace existing components. Unit Pricing to be based on a 2x4, 2x6, 2x8 per 8 linear feet basis.
- C. Provide a Unit Price for the installation of 2" polyisocyanurate fill at areas of wet insulation. Unit pricing based on a (32SF) 4' x8' sheet.
- D. Provide a Unit Price for the removal and replacement of existing drain head assemblies inclusive of all required modifications/replacement of drain piping as well as all required accessories and components. Unit Pricing to be based on a per drain head (unit) basis.
- E. Provide a Unit Price per Sq. Ft. for the grinding and re-pointing of masonry mortar joints. Mortar color to match existing.
- F. Provide a Unit Price for the replacement of common brick unit to match existing on a per unit basis.
- G. In the event that additional work items must be referenced to actual expended time, submit labor rate charges for such work.
- H. Identify the cost "mark-up" for additional materials incorporated into the work.
- I. Identify the cost of providing a Performance Bond based upon the total cost of the Bid.

END OF UNIT PRICE MEASUREMENT AND PAYMENT SECTION

DIVISION 1 – GENERAL REQUIREMENTS

SECTION 01 23 00 - Alternates

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A. Alternate: A price proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. The total cost or credit for each alternate is the net total cost resulting from value of work deleted and value of work added, including all added mark-up, taxes, shipping, and work of all trades, in addition to or deducted from the Contract Sum to incorporate alternate into the Work.
 - 2. Alternates will be accepted or rejected by the Owner in the order in ascending numerical order.

1.4 PROCEDURES

- A. Coordination: Perform all modifications, deletions and additions to the work, including any required alterations to adjacent or interfacing components or systems, which are necessary by reason of acceptance of any Alternate. Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project. All work performed for accepted Alternates shall be in accordance with the requirements of the Contract Documents.
 - 1. Include as part of each alternate miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Alternate prices shall be held without revision for a period of One Hundred and Twenty (120) consecutive calendar days from the date of the Contract or the Notice to Proceed, whichever is sooner.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: The Schedule of Alternates is included at the end of this Section. Alternate prices are required in accordance with the abbreviated descriptions set forth below. Refer to the Drawings and Specifications for additional details of the work.

DIVISION 1 – GENERAL REQUIRMENTS

SECTION 01 23 00 - Alternates

PART 2 - PRODUCTS (Refer to specific Specification Sections in this Project Manual for more information)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES (Include Alternate Prices in Bid Form where indicated).

Alternate Bid 1 Scope of Work: [80 mil TPO or 45mil PVC/KEE reinforced sheet, (20-year NDL warranty)]

- In lieu of 60 mil TPO / 45mil PVC/KEE membrane install new 80 mil TPO or 60mill PVC/KEE membrane. Remainder of work to remain same.

Alternate Bid 2 Scope of Work: [New walkway pavers]

- In lieu of raising and resetting existing walkway pavers, provide price to install new walkway pavers. Remainder of work to remain same.

END OF ALTERNATES SECTION

DIVISION 1 - GENERAL REQUIREMENTS
Section 01 25 13 - Product Substitution Procedures

PART 1 - GENERAL

1.01 REQUIREMENTS

- A. Furnish and install products specified, under options and conditions for substitutions stated in this section.

1.02 RELATED REQUIREMENTS

- A. Instructions for Procurement
B. Bid Form - Proposed Product Substitutions List
C. Section 01 33 23: Submittals

1.03 PRODUCTS LIST

- A. Before Bid Due Date, submit (4) copies of the complete list of major products which are proposed for substitution. Tabulate products by specification section number and title. For products specified only by reference standards, list for each such products:

1. Name and address of manufacturer
2. Trade name
3. Model or catalog designation
4. Manufacturer's data:
 - a. Referenced standards
 - b. Performance test data

1.04 CONTRACTOR'S OPTION

- A. For products specified only by reference standard, select product meeting that, or those, standard(s), by any manufacturer.
- B. For products specified by naming several products of manufacturers, select any one of the products and manufacturers named which complies with the product specifications.
- C. For products specified by naming one or more products or manufacturers and stating "or equal", submit a request as for substitutions, for any product or manufacturer which is not specifically named.
- D. For products specified by naming only one product and manufacturer, there is no option and no substitution allowed.

1.05 SUBSTITUTIONS

- A. Prior to the Bid Due Date, the Architect will consider formal requests from the Contractor for substitution of products in place of those specified.
1. After the end of that period, requests will be considered only in the case of product unavailability or other conditions beyond the control of the Contractor.
- B. Submit separate request for each substitution on the form following this section. Support each request with complete data substantiating the feasibility of using any proposed substitution.
- C. Substitute products shall not be ordered or installed without written acceptance from the Architect.

DIVISION 1 - GENERAL REQUIREMENTS
Section 01 25 13 - Product Substitution Procedures

The Architect will determine acceptability of proposed substitutions.

1.06 CONTRACTOR'S REPRESENTATION

A. In making formal request for substitution Contractor represents that:

1. He has investigated proposed product and has determined that it is equal to or superior in all respects to that specified, and that he will provide identical warranties or bonds for substitution as for product specified.
2. He will coordinate the installation of the accepted substitution into the work and will make all changes as may be required for the work to be completed in all respects.
3. He waives all claims for additional costs caused by the substitution which may subsequently become apparent.
4. Data is complete and includes related costs under his Contract, but not:
 - a. Costs under separate contracts.
 - b. Architects costs for redesign or revision of Contract Documents.

(See Attached "Material Substitution Request" form immediately following this Section)

END OF PRODUCT SUBSTITUTION PROCEDURS SECTION

Project: _____
To: _____
Re: _____

Substitution Request Number: _____
From: _____
Date: _____
A/E Project Number: _____
Contract For: _____

Specification Title:
Section: _____ Page: _____

Description:
Article/Paragraph: _____

Proposed Substitution:

Manufacturer: _____ Address: _____ Phone: _____

Trade Name: _____ Model No.: _____

Installer: _____ Address: _____ Phone: _____

History:

New Product 2-5 Years Old 5-10 Years Old More Than 10 Years Old

Differences between proposed substitution and specified product:

Point-By-Point comparative data sheet attached – REQUIRED BY A/E FOR THIS REQUEST.

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request, applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

Proposed substitution has been fully investigated and determined to be equal or superior in all respects to the specified products performance. Same warranty will be furnished for proposed substitution as for specified product.

Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.

Proposed substitution does not affect dimensions and Functional Performance Values.

Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: _____

Signed by: _____

Firm: _____

Address: _____

Telephone: _____

AE's REVIEW AND ACTION (DO NOT WRITE IN THIS BOX - FOR A/E ONLY)

Substitution approved - Substitution approved as noted - Make submittals in accordance with Specification Section

01 33 23. Substitution rejected - Use specified materials.

Substitution Request received too late - Use specified materials.

Signed by: _____

Date: _____

Supporting Data Attached: Drawings Product Data Samples Tests Reports Other

DIVISION 1 – GENERAL REQUIREMENTS
SECTION 01 26 63 - Change Order Procedures

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Change Order procedures.

1.2 RELATED DOCUMENTS

- A. SECTION 00 72 13 - General Conditions of Contract
- B. SECTION 01 33 23 - Submittals - Shop Drawings, Product Data and Samples

1.3 CHANGE ORDER REQUESTS

- A. Architect-Initiated Change Orders: Architect/Engineer will issue a Request for Change Proposal (AIA Document, G709 Form) to the Contractor which includes a detailed description of requested changes in the Work that may require adjustment to the Contract Price or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Contract Price estimate developed in accordance with Section 00 72 13 "General Conditions of Contract", in a format as provided by the Architect/Engineer.
 - 2. Within 10 days after receipt of Request of Change Proposal, the Contractor shall submit a proposal estimating cost adjustments to the Contract Price and the Contract Time necessary to execute the change. Requests shall include, but not limited to the following:
 - a. Contractor shall submit estimate developed in accordance with Section 00 72 13 in the format of AIA Document, G701 Form with required break-down of pricing, if required by Architect.
 - b. Accompanying the Change Order shall be a fragment of the Contractor's construction schedule outlining the scheduled sequence of the requested changes, including the predecessor and successor activities, with activity IDs, that indicate the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship.
 - c. Documentation of contract values for each Subcontractor is also required.
 - 3. Change Orders will be reviewed by Architect/Engineer and executed in accordance with the General Conditions of the Contract.
 - 4. In situations where the Architect and Contractor cannot agree to a lumps sum price adjustment for performed extra Work, or where the exact scope of the extra Work is unpredictable or the cost indeterminate in nature, Architect may direct Contractor to proceed with the Work. Adjustment of Contract Price and Contract Time will be made in accordance with the General Conditions of Contract Section of the Contract.
- B. Contractor-Initiated Change Orders: Contractor may request changes by submitting a Request for Change Order form to Architect. The request shall be submitted in accordance

DIVISION 1 – GENERAL REQUIRMENTS
SECTION 01 26 63 - Change Order Procedures

with the General Conditions of the Contract and Section 01 33 23 "Submittals- Shop Drawings, Product Data and Samples. A separate Request for Change Order form shall be submitted for each proposed change.

Cost and schedule documentation described above shall be submitted by Contractor as port of the Request for Change Order.

1.4 CHANGE ORDER PROCEDURES

- A. The Architect/Engineer reviews the submitted Request of Change Order and negotiates with the Contractor on behalf of the Owner/Management. If resolution cannot be reached, dispute resolution shall be in accordance with the General Conditions of the Contract.
- B. Upon approval of the Request for Change Order, the Contractor shall submit a formal Change Order, AIA Document, G709 Form (three copies, signed by the Contractor), for review and execution by Architect/Engineer. The Architect will then forward the forms to the Owner/Management for final approval and final execution.
- C. Contractor shall proceed with Work ONLY when all signatures are finalized and returned full executed copies have been distributed by Owner/Management to Contractor and Architect/Engineer.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF CHANGE ORDER PROCEDURES SECTION

DIVISION 1 – GENERAL REQUIREMENTS

Section 01 29 73 – Payment Procedures, Unit Pricing and Schedule of Values

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Comply with all measurement and payment criteria applicable to the work performed under a unit price payment as described herein.

1.2 RELATED SECTIONS

- A. Specified Elsewhere:
 - 1. SECTION 00 20 00 - Instructions for Procurement
 - 2. SECTION 00 41 13 - Bid Form
 - 3. SECTION 00 72 13 - General Conditions of Contract
 - 4. SECTION 01 11 13 - Work Covered by Contract Documents
 - 5. SECTION 01 77 13 - Project Close-out Procedures

1.3 MEASUREMENT AUTHORITY

- A. Measurement of the Work shall be determined by the A/E in the presence of the Contractor.
- B. Measurement of metal deck and/or insulation repair areas shall be made upon completion of preparatory work and prior to placement of repair material.
- C. Provide the necessary equipment and qualified personnel to assist the A/E in the measurement of the Work.

1.4 UNIT QUANTITIES/PRICING

- A. Quantities and measurements indicated in the Bid Form are for bidding and contract purposes only. Quantities and measurements supplied or placed in the Work and verified by the A/E, shall determine the payment and final adjustment to the Contract Amount.
- B. The required quantities shall be provided at the unit price contracted.
- C. The intention of the unit prices is to provide a complete, functioning unit which may include Work from several Specification Sections.

1.5 MEASUREMENT OF QUANTITIES

- A. SF Area: Measured along the finished surface by square dimension using mean length times mean width, to the nearest one-half (0.5) square feet.
- B. LF Length: Measured along the finished surface by mean length at the item center line, to the nearest one-half (0.5) linear foot.
- C. Architect/Engineer will quantify all work completed and provide updated quantity measurements throughout the project, typically on a monthly basis. This, in most cases, shall be used for the basis of measurement of the progress of the work by the Contractor.

DIVISION 1 – GENERAL REQUIREMENTS

Section 01 29 73 – Payment Procedures, Unit Pricing and Schedule of Values

PART 2 - BID FORMAT

2.1 SCHEDULE OF BID ITEMS

A. Refer to Summary of Work and General Requirements, Section 01010, for the general scope of work covered by bid items not listed herein. See Drawings and Specifications for complete scope of work of bid items.

B. Item No. 1 - Mobilization and General Provisions.

Costs not directly attributed to a particular work item, including:

1. Mobilization and demobilization.
2. Site protection.
3. Scaffold rigging and shifting.
4. Equipment delivery, set-up and maintenance.
5. Construction and removal of temporary facilities.
6. Insurance and permit fees.
7. Supervision.
8. Scaffold time for A/E observations.
9. Quality assurance testing.
10. Rubbish removal and periodic clean-up.

C. Total Base Bid/s and Alternates:

1. Include all labor, material, equipment, services, taxes, fees, royalties, patents overhead and profit to perform the Work, excluding alternates, as described in the Bid Documents.
2. The Base Bid/alternate work is separated out into individual line items which identifies estimated quantities of work for each task

PART 3 - ADMINISTRATION OF THE CONTRACT

3.1 SCHEDULE OF VALUES

A. Submit to the A/E for review, 3 copies of the Schedule of Values, within 10 days after receipt of Notice to Proceed.

1. If the A/E's review indicates that revisions are necessary, revise Schedule of Values and resubmit.

B. Schedule of Values shall list a separate line item cost for:

1. Performance and payment bond.
2. Mobilization.
3. General provisions.
4. Each portion of the Work at each wall, scaffold drop, or other logically grouped entity.

C. For each line item, list Subcontractor's and/or Supplier's name as applicable.

D. Total costs of all items listed as Schedule of Values shall equal the Total Contract Sum.

DIVISION 1 – GENERAL REQUIREMENTS

Section 01 29 73 – Payment Procedures, Unit Pricing and Schedule of Values

3.2 APPLICATION FOR PAYMENT

- A. Submit Applications for Payment in accord with provisions established by the conditions of Contract and Agreement Between Owner and Contractor.
- B. Format and Data Required
 - 1. AIA document G702 and G703.
 - 2. List itemized costs as they appear in the Schedule of Values accepted by the A/E.
 - 3. Fill in required information including Change Orders executed prior to date of submittal of application.
 - 4. Each copy shall be signed by the person legally authorized to represent the Construction Firm.
- C. Substantiating Data
 - 1. When requested by A/E or Owner, submit substantiating data with cover letter including:
 - a. Project name and number.
 - b. Application no. and date.
 - c. List of enclosures.
 - d. Itemization of stored materials, if applicable.
- D. Material Stored Off-Site
 - 1. Provide access to stored material for A/E's examination and verification.
 - 2. Contractor shall be responsible for costs incurred by the A/E for personnel and transportation unless otherwise provided for by the Agreement Between Owner and Contractor.
 - 3. Submit a list with the description and quantity for each stored item.
 - 4. All material stored off-site shall be clearly tagged and labeled with the name of the Project.
 - 5. Submit Certificate of Insurance as evidence that the Owner's interest is protected with respect to loss of the stored materials.
 - 6. Submit the Bill of Sale that establishes the Owner's title to such material.
- E. Retainage
 - 1. The cumulative total of the progress payments shall not exceed ninety percent (90%) of the total work completed at the end of the preceding month. The same retainage shall apply to payment request for stored material and equipment.
 - 2. The unpaid percentage of the Contract sum shall be retained by the Owner as partial security for the faithful performance of the contractual obligations of the Contractor, and shall not be paid to the Contractor until and after the Owner has accepted the Entire Work in writing as satisfactory, and after the Contractor has furnished to the Owner all close out submitted.

DIVISION 1 – GENERAL REQUIREMENTS

Section 01 29 73 – Payment Procedures, Unit Pricing and Schedule of Values

F. Waivers of Lien

1. The first Application for Payment shall be accompanied by the General Contractor's partial waiver of lien for the full amount of payment due.
2. Each subsequent Application for Payment shall be accompanied by the General Contractor's partial waiver of lien, plus the partial waivers of lien of Subcontractors and Suppliers, who were included in the immediately preceding Application for Payment to the extent of that payment.
3. The final Application for Payment must be accompanied by final waivers of lien for the full amount of Contracts from the General Contractor, Subcontractors, and Suppliers, including those who have not previously furnished such final waivers.

3.3 PAYMENT WITHHELD

- A. The A/E may decline to approve any Application for Payment and may withhold the same in whole or in part to the extent reasonably necessary to protect the Owner, if in the opinion of the A/E and as a result of discovery of evidence, that the Contractor was responsible for the following:
1. Failure to remedy defective work.
 2. Failure to supply the Waivers of Lien required.
 3. Damage to existing property.
 4. Failure to perform work in accord with Contract Requirements and Schedule.

3.4 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of the A/E, the defective work is repairable, and it is not practical to remove and replace the Work, the A/E will direct one of the following remedies:
1. The defective work may remain, but the unit sum/price will be adjusted to new sum/price at the discretion of the Architect/Engineer.
 2. The defective work will be repaired as requested by the A/E, and the unit sum/price will be adjusted a new sum/price at the discretion of the A/E.
- C. The authority of the A/E to assess the defect and identify payment adjustment is final.

3.5 APPLICATION PROCEDURE

- A. At monthly intervals, submit Applications for Payment to the A/E.
- B. Number of Copies: 3 (three).
- C. When the A/E finds the Application properly completed, it will be transmitted to the Owner with a copy to the Contractor.
- D. Final Payment for Work governed by unit prices will be made on the basis of actual measurements and quantities, determined by the A/E, multiplied by the unit price for the Work which is incorporated in or made necessary by the Work.

END OF PAYMENT PROCEDURES, UNIT PRICING AND SCHEDULE OF VALUES SECTION

DIVISION 1 - GENERAL REQUIREMENTS

Section 01 33 23 - Submittals- Shop Drawings, Product Data and Samples

PART 1 - GENERAL

1.01 SAMPLES AND SHOP DRAWINGS

- A. Shop drawings are drawings, diagrams, and other data that are prepared by the Contractor or any Subcontractor, Manufacturer, Supplier, or Distributor, and which illustrate some portion of the work. Samples are physical examples furnished by the Contractor to illustrate materials, equipment or workmanship, and establish standards by which the work will be judged.
- B. The Contractor shall review, stamp with his approval, and submit all shop drawings and samples required by the Contract Documents or subsequently by the Owner's Representative as a result of project modifications. Shop drawings and samples shall be properly identified as specified or as the Owner's Representative may require. At the time of submission, the Contractor shall inform the Owner's Representative in writing of any deviation in the shop drawings or samples from the requirements of the Contract Documents.
- C. By approving and submitting shop drawings or samples, the Contractor thereby represents that he has determined and verified all field measurements, field construction criteria, materials, catalog numbers, and that he has checked and coordinated each shop drawing and sample with the requirements of the work of the Contract Documents.
- D. Each drawing and sample shall bear the project title, Contractor, date, and revision dates. Shop drawing details shall be identified by references to Specifications or to specific details as shown in the Project Manual. Manufacturer's brochures, performance charts and similar data shall be original copies. The Owner's Representative shall review the shop drawings and samples to determine compliance with the Specifications for the project and return them to the Contractor.
- E. The Contractor shall resubmit corrected copies of shop drawings or new samples until no exceptions are taken. The Owner Representative's review of shop drawings and samples is for general conformance with the design concept and with the Contract Documents. "Review" does not relieve the Contractor's responsibility for any deviation from the requirements of the Contract Documents. The Contractor remains responsible for details and confirmation of all quantities and dimensions, for techniques of assembly, errors or omissions in the shop drawings or samples, and for performing his work in a safe manner. No portion of the work requiring a submittal shall be commenced until the submission has been reviewed by the Owner's Representative.

PART 2 - REQUIRED SUBMITTALS

2.01 SHOP DRAWINGS

- A. Sheet Metal Fabrications

2.02 SAMPLES

- A. Sheet Metal
- B. Sheet Metal Color

2.03 PRODUCT DATA

- A. Roofing Materials
- B. Sealant
- C. Material Safety Data Sheets

2.04 FIELD "MOCK-UPS"

- A. Two (2) full-size sheet metal mock-ups, 12" wide minimum are required for each metal profile.

END OF SUBMITTALS- SHOP DRAWINGS, PRODUCT DATA AND SAMPLES SECTION

DIVISION 1 – GENERAL REQUIRMENTS
SECTION 01 40 00 - Quality Requirements and Inspections

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements for the Contractor for quality control of Work and inspections of such Work.
- B. Quality control includes inspections performed by Owner's Representative, third party testing agencies, and governing authorities for Work performed under this Contract by the Contractor.
- C. Inspections by the Owner's Representative will verify and quantify the Work performed by the Contractor for compliance with requirements specified or indicated here within.
- D. The Contractor shall perform all Work indicated with trained and qualified workers to perform the specified work and will time to time contact the Manufacturer's Representative of the material used to perform quality control inspections and preparation review of the Contractor's work. The Architect/Engineer shall be notified ahead of time of such meetings. The Contractor shall procure a written inspection letter from the Manufacturer's Representative in a timely manner outlining his/her site visit and observations and recommendations, if any.

1.2 RESPONSIBILITIES

- A. Contractor Responsibilities:
 - 1. The Contractor shall perform all repairs per the Manufacturer's Guidelines and Recommendations for the materials used.
 - 2. The Contractor shall provide full access to the building for inspections of all Work including, but not limited to, demolition tasks, preparation of repair area tasks (and final inspection of Work).
 - 3. The Contractor shall coordinate all Work under the General Conditions of the Contract. The Owners Representative may reject any Work performed by the Contractor which does not meet the standard performance requirements.
 - a. All repair work shall be coordinated by the Contractor.
 - b. Any work which is rejected shall be fully removed and replaced by the Contractor without additional compensation.

1.3 QUALITY ASSURANCE

- A. The Contractor must assure quality Work at all times. Work to be performed by qualified employees trained in respected tasks to complete the Work.
- B. The Owners Representative shall inspect Work from time-to-time for conformance and quality assurance of such materials specified and installed by the Contractor.

DIVISION 1 – GENERAL REQUIREMENTS
SECTION 01 40 00 - Quality Requirements and Inspections

1.4 TRADESMEN AND WORKMANSHIP

- A. The Contractor shall ensure that tradesmen performing the Work at the site are skilled and knowledgeable in methods and craftsmanship needed to produce required quality levels for workmanship in completed Work. Remove and replace work which does not comply with workmanship standards and specified and as recognized in the construction industry for applications indicated. Remove and replace other work damaged or deteriorated by faulty workmanship or its replacement.

1.5 COORDINATION

- A. The Contractor shall coordinate construction activities including under various Section of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections of the Specifications that are dependent upon each other for proper installation, connection, and operation.
 - 1. Where installation of one part of the Work is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.
 - 2. Make adequate provisions to accommodate items scheduled for later installation.

1.6 REPAIR AND PROTECTION

- A. General: Upon completion of testing, sample taking and similar services, repair damaged construction and restore substrates and finishes to eliminate deficiencies, including deficiencies in visual qualities of exposed finishes. Comply with Contract Documents requirements, Section 02 41 19 "Selective Demolition and Construction Debris Removal".
- B. Protect Work exposed by or for quality control and or testing services from inclement weather.
- C. Repair and protection is the Contractor's responsibility, regardless of the assignment of responsibility for testing and similar services.

1.7 GENERAL INSTALLATION PROVISIONS

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.
- C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items. Do Not install damaged or bad materials.
- D. Provide attachment and connection devices and methods necessary for securing Work. Secure Work true to line and level. Allow for expansion and building movement.
- E. Visual Effects: Provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to the Architect for final decision.

DIVISION 1 – GENERAL REQUIRMENTS

SECTION 01 40 00 - Quality Requirements and Inspections

- F. Recheck measurements and dimensions, before starting each installation.
- G. Install each component during weather conditions and Project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.
- H. Coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovered completed construction for that purpose.

1.8 REPLACEMENT OF WORK

- A. Within 24 hours after rejection of Work pursuant to the General Conditions, remove all materials and equipment so rejected and immediately replace work at the Contractor's cost to the satisfaction of the Architect/Engineer. Should the Work of the Owner of other Contractors be damaged by such removal or replacement, the Contractor shall reimburse the Owner or other Contractors for all costs incurred for correcting the damage.

END OF QUALITY REQUIREMENTS AND INSPECTIONS SECTION

DIVISION 1 - GENERAL REQUIREMENTS
Section 01 51 00 – Temporary Facilities and Protection

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Contractor to provide all temporary services, facilities, construction aids and equipment required for the proper and expeditious execution of the Work including:
1. First aid facilities.
 2. Fire protection.
 3. Protective coverings for existing structure against damage from work area and/or unfavorable weather conditions.
 4. Contractor shall provide a sidewalk canopy (where applicable) and shall maintain it and pay Village Permit fee.
 4. Shoring, pinning, and bracing.
 5. Enclosures.
 6. Barriers.
 7. Installation of receptacles or other electrical modifications and final connection to the available power sources as required for the execution of the Work.
 8. Valves, fittings and lines necessary for the distribution of water.
 9. Lighting for construction operations.
 10. Protective coverings for air conditioner units, decks, and other rooftop structures in the area where work is being performed.
 11. Protection of all mechanical equipment intakes and exhausts from continuous use for the duration of the project.
 12. Cleaning material residue from sills, belt courses, windows and other areas of the building and site following completion of the work at each area.
 13. Temporary Portable bathroom facilities.
- B. Owner will provide:
1. Electrical power from existing on-site power supplies.
 2. Access to and use of building's potable water will be provided.
 3. Limited (maximum of 6 vehicles) on-site parking will be provided for Contractor on a daily basis during the construction period.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Materials for temporary facilities may be new or used. Comply with specified codes and standards.

PART 3 - EXECUTION

3.1 CONSTRUCTION AIDS

- A. Provide temporary weather-tight closures of openings in the exterior surface to provide acceptable working conditions and protection of existing and installed work.
- B. Provide temporary ladders, ramps, and runways as may be required for general use during the performance of the Work. All such facilities shall be constructed and maintained in accordance with the applicable codes and regulations.
- C. Completely remove temporary facilities upon completion of construction and repair damages caused by installation.

DIVISION 1 - GENERAL REQUIREMENTS
Section 01 51 00 – Temporary Facilities and Protection

3.2 PROTECTIVE COVERINGS AND CANOPIES

A. Canopies (where required):

1. Canopy Protection shall be the responsibility of the Contractor to provide and maintain protection inclusive of permits per the Village during the duration of the construction period.
2. Contractor is to maintain all canopies, barricades, and equipment in good working condition and pay the Village Permit fees. Scaffolding shall be based on current Village Codes and Ordinances. Any pricing increased as a result of modifications to the codes and/or Ordinance shall be directly reimbursable to the Owner.
3. All canopies, barricades, and equipment exposed to public view shall be neat and clean in appearance and be illuminated per Village standards.
4. The Contractor shall be fully responsible for all injuries and property damage that occurs due to debris falling from the areas of the building within the limits of the Work, or the scaffolding work platforms, during the entire course of the project.
5. All damage to private property of the Owner from the work shall be repaired or compensated to the satisfaction of the Owner, by the Contractor, at no cost to the Owner.

B. Protection:

1. Protect roof surfaces, adjacent wall areas to remain, utilities, and other building components from damage due to the Work with appropriate coverings.
2. Protect parapets from damage from cables and hooks with appropriate coverings.
3. Document roof conditions prior to start of the project. Report any damages to building management prior to mobilization of equipment.
4. Protect all areas of raked mortar joinery from unfavorable weather conditions such as rain, snow and/or cold weather conditions when work cannot be completed over a period of extending to two (2) or more consecutive days or if heavy rain is predicted overnight. Plastic tarps shall be used and secured properly as not to flap or come loose during protection period(s).

3.3 SHORING

- A. Provide temporary shoring and bracing required for removal operations or for the installation of new work.
- B. The cost of proper repair of all damage resulting from failure of shoring, bracing and from improper support shall be borne by the Contractor.
- C. Remove temporary shoring and bracing upon completion of permanent supports.

3.4 CLEANING DURING CONSTRUCTION

- A. Control accumulation of waste materials and rubbish. Periodically dispose of off-site.
- B. Remove debris that falls to ground around building at end of each work-day.
- C. Keep roof free from debris. Contractor to be responsible for any damages incurred due to roof drains being clogged or blocked by Contractor's material or equipment.

3.5 REMOVAL

- A. Remove temporary materials, equipment, and construction at completion of the Work.
- B. Clean and repair damage caused by installation or use of temporary facilities.
- C. Restore existing facilities to specified or original condition.

END OF TEMPORARY FACILITIES AND PROTECTION SECTION

DIVISION 1 - GENERAL REQUIREMENTS

Section 01 77 13 – Project Closeout Procedures and Submittals

PART 1 - GENERAL

1.01 SUMMARY

- A. Work includes declarations, inspections, and submittals necessary to obtain final acceptance of the Work on this project.
- B. Related requirements specified elsewhere:
 - 1. Section 00 72 13 - General Conditions of Contract
 - 2. Section 01 11 13 – Work Covered by Contract
 - 3. Section 01 29 73 – Payment Procedures, Unit Prices and Schedule of Values
 - 4. Section 01 33 23 - Submittals- Shop Drawings, Product Data and Samples

1.02 SUBSTANTIAL COMPLETION

- A. Contractor:
 - 1. Submit written declaration to Architect/Engineer that project, or designated portion of project, is substantially complete.
 - 2. Submit list of items to be completed or corrected in form of “Contractor’s Preliminary Substantial Completion Punchlist”.
- B. Owner and/or Owners Representative will make preliminary inspections within seven days after receipt of Contractor’s declaration.
- C. Should Owner and Owners Representative consider that work is substantially complete:
 - 1. Owners Representative will prepare a formal “Punchlist” of items to be completed or corrected, as determined by the inspection.
 - 2. Owners Representative will prepare and issue a Certificate of Substantial Completion, containing:
 - a. Date of Substantial Completion.
 - b. Punchlist of items to be completed or corrected.
 - c. The time within which Contractor shall complete or correct Work of listed items.
 - d. Date of time Owner will assume possession of Work or designated portion thereof.
 - e. Responsibilities of Owner and Contractor for:
 - 1) Insurance
 - 2) Utilities
 - 3) Operation of mechanical, electrical and other systems
 - 4) Maintenance and cleaning
 - 5) Security
 - 3. Contractor: Complete Work listed for completion or correction, within designated time.
- D. At time of inspection, should substantial completion not be certified, complete the Work and resubmit declaration in accordance with 1.02A.

DIVISION 1 - GENERAL REQUIREMENTS

Section 01 77 13 – Project Closeout Procedures and Submittals

1.03 FINAL INSPECTION

- A. Contractor shall submit written declaration to Owner that:
 - 1. All aspects of Contract Documents have been complied with.
 - 2. All items on substantial completion Punchlist have been completed.
 - 3. All tools, construction equipment and surplus materials have been removed from site.
- B. Contractor with Owner and Architect/Engineer will make final inspection to ensure completion of all contract requirements.
- D. When Owner and Architect/Engineer consider that work is finally complete in accordance with Contract Document requirements, the Contractor will prepare and process closeout documents.

1.04 CLOSEOUT SUBMITTALS REQUIREMENTS

- A. Deliver evidence of compliance with requirements of governing authorities:
 - 1. Certificate of Substantial Completion.
 - 2. Manufacturer Product Warranties- ALL products specified here within.
 - 3. Contractor Workmanship Warranty; Minimum 2-years from date of Substantial Completion.
- B. Deliver evidence of compliance with requirements of governing authorities.
 - 1. Certificates of Inspection- if required by Village

1.05 FINAL APPLICATION FOR PAYMENT

- A. Contractor shall submit the final application for payment in accordance with Contract Documents.

END OF PROJECT CLOSEOUT PROCEDURES AND SUBMITTALS SECTION

DIVISION 1 - GENERAL REQUIREMENTS

Section 01 78 36 - Product Warranties

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. General administrative and procedural requirements for manufacturers' standard or special warranties on products as specified.
- B. Warranty Requirements.

1.2 RELATED SECTIONS

- 1. 01 77 13 - Project Closeout Procedures and Submittals

1.3 DISCLAIMERS and LIMITATIONS

- A. Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work incorporating the products, nor does it relieve suppliers, manufacturers, or subcontractors required to countersign special warranties with the Contractor.

1.4 DEFINITIONS

- A. Refer to Section 01 77 13 - Project Closeout Procedures and Submittals

1.5 WARRANTY REQUIREMENTS

- A. Workmanship Warranty: The contractor shall provide a written two (2) year warranty against poor workmanship and faulty installation due to its workers and/or subcontractors work.
- B. Manufacturer's Warranty: The contractor shall provide all manufacturer's warranties to cover all installed equipment and materials inclusive of labor for this project under a no-dollar-limit (NDL) for a period of 20-years unless otherwise noted.
- C. Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work damaged because of such failure or that shall be removed and replaced to provide access for correction of warranted Work, at no cost to the Owner.
 - 1. Correction of work shall include shipping, labor, supervision, and related work involved in replacing defective parts or materials provided by manufacturers under their warranties.
- D. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- E. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Construction Documents.
- F. Owner's Recourse: Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights, and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce other duties, obligations, rights, or remedies.
 - 1. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Construction Documents.
- G. Warranties made by subcontractors to the Contractor are a part of the Contractor's responsibility to the Owner.
- H. The Owner reserves the right to refuse acceptance of Work where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments have done so.

1.6 SUBMITTALS (Refer to Section 01 77 13 - Project Closeout Procedures and Submittals)

PART 2 PRODUCTS-Not Used

PART 3 EXECUTION-Not Used

END OF PRODUCT WARRANTIES SECTION

DIVISION 02 – SITE WORK

02 41 19 Selective Demolition and Debris Removal

1.01 DESCRIPTION

- A. Requirement of Information for Bidders, "General Conditions" and "Supplementary General Conditions" from a part of the following specifications and Contractor shall consult them in detail for instructions pertaining to the work.
- B. Related requirements specified elsewhere:
1. 00 10 00 - Solicitation
 2. 00 20 00 - Instructions for Procurement
 3. 00 41 13 - Bid Form
 4. 00 72 13 - General Conditions of Contract
 5. 01 22 13 - Unit Price Measurement and Payment
 6. 01 26 63 - Change Order Procedures
 7. 01 29 73 - Payment Procedures and Schedule of Values
 8. 01 33 23 - Submittals, Shop Drawings, Product Data and Samples
 9. 01 40 00 - Quality Requirements and Inspections
 10. 01 51 00 - Temporary Facilities and Protection
 11. 01 77 13 - Project Closeout Procedures and Submittals
 12. 01 78 36 - Product Warranties
 13. 02 41 19 - Selective Demolition and Debris Removal
 14. 07 22 00 - Insulation
 15. 07 52 00 – APP Modified Roofing
- C. Work Included: **Base Bid:**
1. The extent of demolition work is shown on the Drawings and is specified in the Project Manual under the Base Bid and Alternate Bid work.
 2. The Safely disconnect and raise a/c condensers, satellites, and RTUs unless otherwise noted. Testing of units may be performed at contractor's discretion. Protect and store equipment as required to complete roof work. Modify gas lines and conduit as required to accommodate new insulation and HVAC equipment height.
 3. The removal of rock ballast and replacement of deteriorated insulation. Roof area to be inspected for any irregularities, blistering, or deterioration and repaired accordingly. Existing membrane flashings shall also be removed at the perimeter parapet walls.
 4. Complete removal of all sheet metal inclusive of gravel stop edge, coping caps, and counter flashings.

1.02 JOB CONDITIONS

- A. Traffic: Conduct demolition operations and removal of debris to ensure minimum interference with roads, walks, and other adjacent buildings, structures, other facilities and other adjacent occupied or used facilities.
- B. Projections: Ensure the safe passage of persons around the area of demolition. Conduct operations to prevent injury to adjacent buildings, structures, other facilities and persons.
- C. Damages: Promptly repair damages caused to adjacent facilities by demolition and removal operations at no cost to the owner.
- D. Utility Services: Maintain existing utilities. Keep in service and protect against damage during demolition operations.

DIVISION 02 – SITE WORK

02 41 19 Selective Demolition and Debris Removal

PART 2 - EXECUTION

2.01 DEMOLITION

A. Pollution Controls:

1. Limit the amount of dust and dirt rising and scattering in the air. Comply with governing regulations pertaining to environmental protection.
2. Clean adjacent construction and improvements of dust, dirt, and debris caused by demolition operations, as directed by the Owner's Representative. Return adjacent areas to condition existing prior to the start of the work.

2.02 DISPOSAL OF DEMOLISHED MATERIALS

- A. All material loading and debris removal shall be formed in a controlled fashion.
- B. Chutes, walkways, wall panels and debris enclosures shall be erected to limit the dust and debris
- C. Remove from the site and legally dispose of debris, rubbish and other materials resulting from demolition operations.
- D. When applicable all debris and materials shall be separated for recycling and delivered to locally licensed recycling facilities at no additional cost to the Owner.
- E. Comply with all applicable Environmental Protection Agency (EPA) requirements with regard to the handling and disposal of all roofing materials.
- F. All materials and debris handling is to be performed in a strictly controlled fashion. Chutes, hoists, crane lifts, dust enclosures, etc. are adequately braced to insure that handling procedures pose no threat to either the building or its users.
- G. Interior hallways, freight elevators, and all interior spaces effected by demolition activities shall be swept and cleaned on a daily basis.
- H. All exterior areas used for debris removal set-up/staging and other operations shall be cleaned and secured at the end of each workday. The building site and adjacent sites shall be monitored for debris and shall be promptly cleaned and cleared of all pedestrian and vehicular hazards.

END OF SECTION 02 41 19

DIVISION 7 - THERMAL & MOISTURE PROTECTION

Section 07 22 00 - Roof Insulation

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Included (BASE BID):
1. Remove existing ballast and membrane flashings.
 2. Inspect roof area for any damaged/deteriorated wet insulation and roof deck. Remove and replace areas of damage/deterioration accordingly. Quantities to be charged under unit price provisions. Photo document all deteriorated decking and report replacement quantities to A/E and Owner on a daily basis.
 3. Cut existing membrane surface into 3' x 3' squares.
 4. Install new treated wood blocking as required to insure minimum flashing heights in all instances.
 5. Modify drain assembly as required to accommodate new roofing insulation heights. Providing a minimum 4' x 4' tapered sump at all drain locations.
 6. Install new mechanically fastened recover board.
- D. Related Items:
1. Section 02220 – Demolition
 2. Section 07350 – Single Ply Roofing

1.02 QUALITY ASSURANCE

- A. Reference Standards: Except as modified by the project specifications, cited reference standards govern the work.
- B. Qualifications: The Contractor shall have experience in the installation of specified materials, and shall be an approved installer of the same by the material manufacturer. The Contractor shall also have installations of specified materials in the local area in use for a minimum of five (5) years.

1.03 ENVIRONMENTAL CONDITIONS

- A. Perform all work under the temperature and climatic conditions recommended by the materials manufacturers.

1.04 WORK SEQUENCE

- A. Removals and installations of new materials specified in this Section shall be closely coordinated with the work specified in Sections 02220 and 07550.

1.05 PROTECTION

- A. Store all insulation materials on pallets or raised platforms. Protect stored materials with weather protective coverings. Tarpaulin coverings are preferred. If Visqueen coverings are used as shipped from the factory, venting must be provided to control condensation within each insulation bundle. Improperly stored materials will be rejected. Monitor insulation load coverings daily. Repair covering deficiencies.
- B. Notify the Owner's Representative of areas targeted for work in advance of "tear-off" operations. Immediately notify Owner's Representative of any existing construction anomalies, such as defective roof decking, adjacent wall deficiencies, etc. prior to proceeding with the work.

DIVISION 7 - THERMAL & MOISTURE PROTECTION

Section 07 22 00 - Roof Insulation

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Rigid Cover Board (Base Bid): Mechanically fastened "DensDeck Prime" gypsum roofing boards with non-asphaltic coated fiberglass matting, 1/2" in thickness as manufactured by Georgia-Pacific Gypsum or approved equal.
- B. Tapered Saddles: Mechanically fastened, Closed-cell rigid polyisocyanurate insulation (1/2" per 1'-0" starting at 0") with non-asphaltic fiber reinforced felt facers and meeting or exceeding FM Standard 4450/4470 and UL Standard 790 Classification and having a flame spread rating of 25 per ASTM E 84. System shall meet FM-I-90 for wind uplift
- C. Mechanical Fasteners; Ultra Fast Fasteners & Plates as manufactured by Johns Manville or approved equal

2.02 MANUFACTURERS

- A. Insulation Board:
 - 1. John Mansville
 - 2. Approved Equal

PART 3 - EXECUTION

3.01 COORDINATION

- A. Coordinate the installation of insulation with specified removal and new membrane work. See Specification Sections 02220, 07530 and 07550.

3.02 REMOVALS

- A. Remove the existing rock ballast from roof surface and clean/seep existing debris down to membrane surface.
- B. Remove the existing roof flashings and related metal work

3.03 ROOF INSTALLATION PROCEDURES (BASE BID)

- A. Disconnect and raise all existing roof top equipment to appropriate height as required by material manufacturer to accommodate flashings.
- B. Sweep existing surface clean. Repair/replace all areas of damaged and/or deteriorated insulation and metal decking at all roof areas.
- C. Cut membrane field into 3' x 3' square
- D. Install new prefabricated equipment rails, if elected, to match existing equipment locations.
- E. Install new mechanically fastened recovery board fastened to the structural metal deck in accordance with manufacturer's requirements. Stagger all insulation board joints, inclusive of multiple layer areas to insure that vertical board joints do not occur in a continuous manner. Small voids and/or gaps in the recovery shall be filled. New recovery board shall be installed in accordance with Factory Mutual (FM) 1-90 and in accordance with manufacturer's recommendations.
- F. The entire surface of the insulation shall be swept clean of all debris prior to the application of the roofing membrane.

END OF SECTION 07220

DIVISION 7 - THERMAL & MOISTURE PROTECTION

Section 07530 – Single-Ply Roofing

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Install new fully adhered single-ply TPO roofing membrane and flashings system or KEE Thermoplastic Roofing System meeting FM1-90 uplift rating and following all manufacturer guidelines.
2. Install new sheet-metal flashings, counter-flashings, coping caps and related components with sheet metal cover tape where applicable.
3. Clean-up.

B. Related Items:

1. Section 02 41 19 – Selective Demolition & Construction Debris removal
2. Section 07 22 00 – Insulation

1.02 QUALITY ASSURANCE

- A. Reference Standards: Except as modified by the project specifications, cited reference standards shall govern work.
- B. Qualifications: The Contractor shall have experience in the installation of the specified materials, and shall be an approved installer of the same by the material manufacturer.
- C. Environmental Conditions: Perform all work under the temperature and climatic conditions recommended by the material manufacturers. Follow local, state, and federal regulations, safety standards and codes.

1.03 WORK SEQUENCE

- A. Do not conduct roofing operations when inclement weather is forecasted. Remove only as much roofing as can be replaced completely by the end of each workday.

1.04 SUBMITTALS

A. Exhibit requirements include:

1. Most recent product data on specified membrane.
2. Manufacturer's most recent printed installation instructions.
3. Mock-ups: Submit full size samples of sheet metal counterflashings and copings as detailed on drawings prior to fabrications.

1.05 PROTECTION

- A. Water cut-offs shall be provided at the close of each day's work. When a danger exists that water caused by precipitation may get beneath new roofing, water cut-offs shall be installed while other roofing operations are in progress. All water cut-offs are temporary, and shall be removed prior to proceeding with the work.
- B. Materials stored on roofs shall be limited to safe loading on installed materials, decking, and structural framing.
- C. Protect paving and all work in-place from adhesive splashing and other damage resulting from the storage, preparation, and handling of material.

DIVISION 7 - THERMAL & MOISTURE PROTECTION

Section 07530 – Single-Ply Roofing

- D. Store all materials on raised platforms with weather protective coverings. Store all rolled goods on-end. MATERIALS STORAGE PROCEDURES WILL BE CLOSELY MONITORED AND STRICTLY ENFORCED.

1.06 WARRANTIES

- A. Manufacturer's 20-Year System No Dollar Limited Warranty: Upon successful completion of the work to Manufacturer's satisfaction and receipt of final payment, the Manufacturer's 20 Year No Dollar Limit System Warranty shall be issued. A minimum 90 mph wind warranty coverage is required for Base Bid work. A minimum 75 mph wind and minimum $\frac{3}{4}$ " hail warranty coverage is required.
1. Terms: Include all labor and materials, tools, equipment and services necessary for proper repair, restoration or replacement of the new roofing system resulting from:
 - a. Defects, imperfections or faults in insulation, mechanical fasteners, membranes, flashing, sheet metal.
 - b. Workmanship.
 2. Corrections of defects during the guarantee period shall not relieve the Contractor from his responsibility for additional corrective work during the full guarantee period
- B. Applicator/Roofing Contractor 2-Year Warranty: The Applicator shall supply the Owner with a separate 2 year workmanship warranty. In the event any work related to roofing, flashing, or metal is found to be within the Applicator warranty term, defective or otherwise not in accordance with the Contract Documents, the Applicator shall repair that defect at no cost to the Owner. The Applicator's warranty obligation shall run directly to the Owner, and a copy shall be sent to The Manufacturer.
- C. Owner Responsibility: Owner shall notify both The Manufacturer and the Applicator of any leaks as they occur during the time period when both warranties are in effect.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Roof Membrane:

Base Bid:

- a. 60 mil scrim-reinforced TPO (Thermoplastic Polyolefin) as manufactured by Johns Manville or approved equal. Membrane shall conform to the minimum ASTM D 6878
<OR>
- b. 45-mil ketone ethylene ester (KEE) membrane, reinforced with a 5.0-oz yd² knitted polyester fabric "FiberTite" as manufactured by Seaman Corporation, under the trade name FiberTite or approved equal. Membrane color shall be DC196 Off-White.

Alternate 1:

- a. 80 mil scrim-reinforced TPO (Thermoplastic Polyolefin) as manufactured by Johns Manville or approved equal. Membrane shall conform to the minimum ASTM D 6878
<OR>
- b. 60-mil ketone ethylene ester (KEE) membrane, reinforced with a 5.0-oz yd² knitted polyester fabric "FiberTite" as manufactured by Seaman Corporation, under the trade name FiberTite or approved equal. Membrane color shall be DC196 Off-White.

B. Flashing Accessories:

- a. TPO: As required and manufactured by Johns Manville or approved equal
- b. KEE: DC196 Off-White Nominal 60-mil FiberTite membrane shall be used for all flashing requirements to match the field membrane and warranty expectations selected for the roofing system. FTR-Pre-Molded Flashing(s); injection molded vent stack and inside/outside corner flashing using FiberTite KEE compound.
- c. Use prefabricated flashing components and accessories appropriate for membrane material as provided by the membrane manufacturer.

DIVISION 7 - THERMAL & MOISTURE PROTECTION

Section 07530 – Single-Ply Roofing

- C. Bonding Adhesive:
 - a. TPO: “MBR Bonding Adhesive” as manufactured by Johns Manville or approved equal.
 - b. KEE: FTR-190e Bonding Adhesive - A VOC compliant solvent borne, contact (two sided) bonding adhesive, designed for bonding non-fleece back FiberTite membranes to properly prepared and pre-authorized horizontal and vertical substrates.
- D. Primer: “JM TPO Membrane Primer” as manufactured by Johns Manville or approved equal.
- E. Cleaning Solvent: “JM TPO Membrane Cleaner” as manufactured by Johns Manville or approved equal.
- F. Exposed edge sealant: “JM TPO Edge Sealant” as manufactured by Johns Manville or approved equal.
- G. External seam sealant: “JM Single Ply Sealing Mastic” (multi-purpose gun grade construction sealant) as manufactured by Johns Manville or approved equal.
- H. Misc. Components and Accessories: Use only system components and accessories appropriate for the membrane material (TPO) as provided by or approved for use by the membrane manufacturer.
- I. Fasteners / Plates:

(Plywood Deck): “High Load Fasteners and Metal Plates as manufactured by Johns Manville, Denver, CO or approved equal. Length to penetrate deck a min. 3/4” or per manufacturer requirements.
- J. Wood Blocking: Treated No, 2 "Wolmanized.
- K. Nails: Fasteners and roofing nails used to secure flashing shall be galvanized metal with a head diameter of not less than 5/8 inch. Fastener length when penetrating into wood blocking to be no less than 3/4 inch.
- L. Sealant: "NP 1" Sealant: “Sonolastic NP-1” single-component high performance sealant as manufactured by Sonneborn – ChemRex, Inc Shakopee, MN. or approved equal.
- M. Sheet Metal Fasteners: Non-corrosive and equipped with neoprene washers in all cases.
- N. Sheet Metals:
 - 1. TPO and KEE: Cleats, coping caps, counterflashings: 24 gauge galvanized steel with factory coated fluopan finish as manufactured by Peterson Aluminum Corp., Elk Grove Village, IL. or approved equal. Color to be selected by Owner from manufacturers standard color line.
 - i. TPO Cover Tape: “JM TPO Cover Tape” as manufactured by Johns Manville or approved equal.
 - 3. KEE: Fiber Clad Metal; 24 gauge hot dipped G-90 steel, laminated with a 0.020 mil polymeric coating or approved equal
- O. Sheet Metal Cover Tape: “JM TPO Cover Tape” as manufactured by Johns Manville Denver, CO.
- P. Peelstop Bar: An extruded aluminum, low profile bar used with certain fasteners to attach to the roof deck or to walls/curbs at terminations, penetrations and at incline changes of the substrate. Peel stop is a 1 inch (25 mm) wide, flat aluminum bar 1/8 inch (3 mm) thick that has predrilled holes every 6 inches (152 mm) on center
- Q. Conduit Supports: “Model number 1.5” pillow block pipe stand and straps as manufactured by Miro Industries, Heber City, UT or approved equal. Set pillow block at 4’ on center.
- R. Singe Gas Line Supports: “Roller Type” pillow block pipe stand and straps as manufactured by Miro Industries, Heber City, UT or approved equal. Set pillow block at 4’ on center.

DIVISION 7 - THERMAL & MOISTURE PROTECTION

Section 07530 – Single-Ply Roofing

- S: Gas Line Cluster Supports: “Base Strut System and straps as manufactured by Miro Industries, Heber City, UT or approved equal.
- T: (Alternate 2) Walkwaypad: JM TPO Safety Walkpa as manufactured by Johns Manville or approved equal.

2.02 MISCELLANEOUS ACCESSORIES

- A. Aluminum Tape: A 2 inch (50 mm) wide pressure-sensitive aluminum tape used as a separation layer between small areas of asphalt contamination and the membrane and as a bond-breaker under the coverstrip at clad joints.
- B. Sealing Tape Strip: Compressible foam with pressure-sensitive adhesive on one side. Used with metal flashings as a preventive measure against air and wind blown moisture entry.
- C. Multi-Purpose Tape: A high performance sealant tape used with metal flashings as a preventive measure against air and wind blown moisture entry.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Surfaces scheduled to receive new membrane roofing shall be free of any standing water, dew, ice, loose debris or any other contaminate that could impair the quality of the installation.
- B. Substrate shall be smooth, clean and free of sharp edges and or projections and obvious depressions that would interfere with the installation of the roof membrane.
- C. Examine all the areas and conditions whereby work in this section is to be installed. Correct any and all conditions detrimental to the proper and timely execution of the work. Do not proceed until such conditions have been corrected to the satisfaction of the owner / owner's representative.
- D. Remove all loose aggregate and debris by power broom, manual labor, and/or vacuum.
- E. Remove and replace all wet or deteriorated wood blocking and insulation.
- F. Clean all exposed metal surfaces such as pipes, pipe sleeves, drains, duct work, etc., by removing loose paint, rust and any asphalt of any kind. Remove and discard lead sleeves at soil stacks.
- G. In all instances, the new completed roofing assembly shall have a total system rating of UL Class A and meet a minimum FM 1-90 uplift rating.
- H. Remove all irregularities from the existing roof system to provide a clean smooth substrate. Remove all flashings at the walls and copings.

3.02 TPO/KEE MEMBRANE INSTALLATION

- A. Outside ambient air temperatures must be 40°F and rising during the use of any and all adhesives/pimers.
- B. Install new fully adhered single ply roofing and flashing system following all manufacturers' specifications and recommendations to achieve a 20-year system warranty and meet FM 1-90 uplift ratings. The membrane shall be rolled into place to insure full continuous adhesion of the membrane in all instances. Heat-weld all seams using a hot air leister robotic welder.

DIVISION 7 - THERMAL & MOISTURE PROTECTION

Section 07530 – Single-Ply Roofing

- A. The surface of the substrate shall be inspected prior to installation of the roof membrane. The substrate shall be clean, dry, free from debris and smooth with no surface roughness or contamination. Broken, delaminated, wet or damaged insulation boards shall be removed and replaced.
- B. Solvent Based Adhesive: Over the properly installed and prepared substrate surface, adhesive shall be applied using solvent-resistant $\frac{3}{4}$ inch nap paint rollers. The adhesive shall be applied to the substrate at a rate according to manufacturer's requirements. The adhesive shall be applied in smooth, even coating with no gaps, globs, puddles or similar inconsistencies. Only an area which can be completely covered in the same day's operations shall be coated with adhesive.
1. The Applicator shall count the amount of pails of adhesive used per area per day to verify conformance to the specified adhesive rate.
 2. No adhesive shall be applied in seam areas. All membrane shall be applied in the same manner.
- C. Water Based Adhesive: Over the properly installed and prepared substrate, adhesive shall be poured out of the pail and spread using notched $\frac{1}{4}$ inch x $\frac{1}{4}$ inch x $\frac{1}{4}$ inch (6 mm x 6 mm x 6 mm) squeegees. The adhesive shall be applied at a rate according to manufacturer's requirements (no adhesive is placed on back of the membrane). The formation of a film on the surface of the adhesive shall not be allowed to occur. The membrane shall be carefully unrolled into the wet adhesive while the edges are overlapped 3 inches (75 mm). The membrane shall be pressed firmly into the adhesive layer with a water-filled, foam-covered lawn roller by frequent rolling in two directions.
1. Water based adhesive shall not be used if temperatures below 40° F (5° C) are expected during application or subsequent drying time.
 2. No adhesive shall be applied in seam areas. All membrane shall be applied in the same manner.
 3. Water based adhesive shall not be used on vertical surfaces or sloped surfaces greater than a 2 inch (50 mm) rise per 1 horizontal foot (0.3 m).
- D. Broom the adhered portion of the membrane to ensure full contact and complete the bonding process by firmly pressing the bonded membrane into place with a weighted, foam-covered, lawn roller.
- E. No adhesive shall be applied to the lap seam areas of the membrane. Contaminated areas will inhibit proper welding of the seams requiring a membrane patch or strip.
- F. Install perimeter bars on top of roof membrane along entire perimeter of roof 4 ft. (1.2 m) from the roof edge. Fasten bar to the structural deck according to manufacturer's written instructions or at min. 12 in. (305 mm) o.c. Hot air weld membrane cover strips over perimeter bars.
- G. Install new prefabricated penetration flashings, inside corners, outside corners, and misc. components and accessories per manufacture specifications. Install new sheet metal flashings and misc. metal work. All flashing components are to be secured using new stainless steel fasteners, clamping rings, etc. and shall have gasketed washers where applicable. Provide cover tape between all metal and membrane surfaces as required.
- H. HOT AIR WELDING
1. All field seams exceeding 10 feet in length shall be welded with an approved automatic welder.
 2. All field seams must be clean and dry prior to initiating any field welding.
 3. All welding shall be performed only by qualified personnel to ensure the quality and continuity of the weld.

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4. Hand Welding:
 - a. The lap or seam area of the membrane should be intermittently tack welded to hold the membrane in place.
 - b. Properly hand welded seams shall utilize a 1-1/2 inch wide nozzle, to create a homogeneous weld, a nominal 1-1/2 inches in width.
5. Automatic Machine Welding
 - a. Follow all manufacturers' instructions for the safe operation of the automatic welder.
 - b. Follow local code requirements for electric supply, grounding and surge protection.
 - c. Properly Automatic Machine welded seams shall utilize a 1-1/2 inch wide nozzle, to create a homogeneous weld, a nominal 1-1/2 inches in width.

I. INSPECTION

- a. The job foreman and/or supervisor shall initiate daily inspections of all completed work which shall include, but is not limited to the probing of all field welding with a dull pointed instrument to assure the quality of the application and ensure that any equipment or operator deficiencies are immediately resolved.
- b. Ensure that all aspects of the installation (sheet layout, attachment, welding, flashing details, etc.) are in strict accordance with the most current MRSM Specifications and Details.
- c. Excessive patching of field seams because of inexperienced or poor workmanship will not be accepted at time of FINAL INSPECTION FOR WARRANTY ACCEPTANCE.

J. FLASHING

- a. Clean all vents, pipes, conduits, tubes, walls, and stacks to bare metal. All protrusions must be properly secured to the roof deck with approved fasteners.
- b. Flash all curbs, parapets and interior walls in strict accordance with approved MRSM details.
- c. The base flange of all membrane flashing shall extend out on to the plane of the deck, beyond the wood nailers to a maximum width of 8 inches.
- d. Vertical flashing shall be terminated no less than 8 inch above the plane of the deck with approved termination bar and counter-flashing or metal cap flashing.
- e. Complete all inside and outside corner flashing details with MRSM pre-formed corners or an approved field fabrication detail.
- f. Probe all seams with a dull, pointed probe to ensure the weld has created a homogeneous bond.

K. METAL FLASHING

- a. All perimeter edge details are to be fabricated from Polymeric-Clad Metal or utilize a prefabricated Fascia System.
- b. Fasten all metal flashing to wood nailers or approved substrate with approved fasteners 8 inches on center.
- c. Install metal flashing in accordance with MRSM Published Specifications and Construction Details.

L. ROOF DRAINS

- a. Flash all roof drains in accordance with MRSM roof drain details.
- b. Minimum 60-mil non-reinforced membrane shall be used for flashing the drain assembly.
- c. The drain target sheet should be sized and installed to provide for a minimum of 12 inch of exposed 60-mil on all sides of the drain

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3.04 SHEET METAL INSTALLATIONS

- A. Prior to fabrication, submit full size mock-ups to the Architect for approval. Form all sections as detailed on drawings. Lines, arises and angles shall be sharp and true. Plain surfaces shall be free from waves of buckles. All sections to have hemmed edges of 3/8 inch minimum.
- B. Form, fabricate, and install to adequately provide for expansion and contraction; finish water and weather-tight throughout.
- C. Shop fabricated metal shall comply with profiles and sizes shown, and in compliance with industry standards as shown by SMACNA in the "Architectural Sheet Metal Manual".
- D. Where necessary, fit new sheet metal work prior to soldering to minimize the extent of vertical soldering work.

3.05 CLEAN - UP

- A. Perform in accordance with the General Conditions and Division I specification requirements. Exercise the utmost caution during roof surfacing operations to ensure that new metal and other new (or existing) construction is not damaged or defaced.

END OF SECTION