

Project Specifications for

2021 Roof & Roof Related Work at Ben Davis High School, Westlake Elementary School, McClelland Elementary School, and Chapelwood Elementary School



Metropolitan School District of Wayne Township

Date of Issue: January 15, 2021



etica Commission No. 200220

PROJECT MANUAL

Project: 2021 Roof and Roof Related Work at Ben Davis High School,
Westlake Elementary School, McClelland Elementary School, and
Chapelwood Elementary School

Metropolitan School District of Wayne Township
Indianapolis, Indiana

Owner: Metropolitan School District of Wayne Township
1220 South High School Road
Indianapolis, Indiana 46241

Dr. Jeffrey Butts, Superintendent
Barry Gardner, Chief Financial Officer
Pete Just, Chief Operations and Technology Officer
Todd Hendricks, Supervisor of Facilities and Grounds
David Erickson, Deputy Construction Officer



School Board Members:

Michael Nance, President
Benjamin Wakefield, Vice-President
Raimeka Graham, Secretary
Brandon Bowman, Member
Karen Burke, Member
Shirley Deckard, Member
Susan Graves, Member

Architect:



Commission Number: 200220

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Comm. #200220

MSD OF WAYNE TOWNSHIP
2021 Roof and Roof Related Work at
Various Locations

01/2021

**2020 Roof and Roof Related Work at Ben Davis High School,
Westlake Elementary School, McClelland Elementary School, and
Chapelwood Elementary School**

**Metropolitan School District of Wayne Township
Indianapolis, Indiana**

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NOTICE TO BIDDERS

Notice is hereby given that MSD of Wayne Township ("Owner"), by and through its Board is requesting sealed bids for furnishing all labor, services, supplies, materials, tools, equipment, and transportation necessary for the Ben Davis High School, Westlake Elementary School, McClelland Elementary School, and Chapelwood Elementary School Roofing Projects (the "Project").

The sealed bids will be received until February 4, 2021, at 1:00 p.m. (EST).

Bids must be delivered to:
Mr. Barry Gardener, Director of Finance
MSD of Wayne Township
1220 S High School Rd
Indianapolis, IN 46241

All Bids received at such place, date, and time will be opened and read aloud in public at the address listed above immediately after the posted time. All bids received after such time will not be considered and returned to the respective bidder unopened.

All work for the complete construction of the Project shall be performed under one or more prime contracts with the Owner. The form of the contract is set forth in the Bidding Documents. Two copies of bid forms shall be submitted on forms provided in the Bidding Documents and project manual, and shall be properly executed in accordance with the current edition of the IN SBOA Form 96 "Contractor's Bid for Public Works." Bidders must complete the entire bid forms including a statement of experience, proposed plan or plans for performing the work, the equipment the Bidder has available for performance of the work, non-collusion affidavit, and financial statement complying with IN SBOA Form 96. Bidders must include a satisfactory Bid Bond or certified check pursuant to Ind. Code § 36-1-12-4.5, payable to the MSD of Wayne Township. Bid Security shall be in the amount of not less than 5% of the Bidder's total contract price. Should a successful Bidder within ten (10) days after written notice of acceptance of bid withdraw its bid, fail to provide the required payment and performance bonds, or execute a satisfactory contract, the Owner may then declare that Bid Security forfeited as liquidated damages, not as a penalty.

Wage rates shall not apply to this Project. All Contractors and Sub-Contractors shall comply with all applicable laws including but not limited to the requirements of Ind. Code § 5-16-13 et seq. and as detailed in the Bidding Documents. Contractor must also be able to and meet all requirements found in applicable public works and contract statutes.

The Bidding Documents for the Project, including the Plans and Specification are on file with the Owner and may also be examined at the following locations:

the etica group, 7172 N Keystone Ave., Ste G, Indianapolis, IN 46240
McGraw-Hill Construction Dodge: www.dodge.construction.com



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Copies of the Bidding Documents may be obtained from Eastern Engineering Supply, Inc, 9901 Allisonville Rd, Fishers, IN, (317) 598-0661, www.easternengineering.com. Costs associated with digital and printed plans and specifications obtained from Eastern Engineering Supply Inc. are and will be incurred by and at the expense of the contractor and are non-refundable.

Prior to approval and execution of the Owner's contract, the Contractor(s) who is the successful Bidder shall furnish an approved Performance and Labor and Materials Payment Bond in the amount of 100% of the contract amount, which shall cover the faithful performance of the contract and the payment of all obligations arising hereunder. Performance and payment bonds shall remain in full force and effect for a period of one year after the Owner's acceptance of the work and Owner's final settlement with the successful Bidder.

The Owner expects to award the contract(s) for the work to the lowest, responsible and responsive Bidder(s). The Owner reserves the right to hold bids, including any alternates, for up to 60 days from the date of the bid opening. The Owner reserves in its sole discretion the right to reject any and all bids, is not obligated to accept the lowest or any other bid, and may waive any irregularities, discrepancies, omissions, variances or informalities in the bidding procedure.

A pre-bid meeting for discussion of the Project, reviewing the scope of work, project specifications and drawings, bid documents, the bidding qualifying requirements and other important matters will be held at MSD of Wayne Twp, 7202 W McCarty St, Indianapolis, IN, 46241 on January 26, 2021 at 10:30 a.m. (EST). The pre-bid meeting will be held in the Operations Center. Immediately following the pre-bid meeting, an opportunity to tour the project site will be offered. All prospective bidders are required to attend this mandatory meeting. Bidders will be responsible for complying with items discussed at the meeting.

Questions regarding the Project, or requests for equal status, can be directed in writing to:

Aaron Conrad, Bldg Envelope Dept
Etica group
aconrad@eticagroup.com

End of Legal Notice



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DOCUMENT 002113 - INSTRUCTIONS TO BIDDERS

1.1 INSTRUCTIONS TO BIDDERS

- A. AIA Document A701, "Instructions to Bidders," is hereby incorporated into the Procurement and Contracting Requirements.
 - 1. AIA Documents A701, "Instructions To Bidders- (2007 Edition), Articles 1 through 8, as published by The American Institute of Architects, 1735 New York Avenue, N.W. Washington, D.C. 20006 are hereby, except as may be inconsistent herewith, made part of these Bidding Documents. These Instructions to Bidders apply equally to and are part of all Bidding Documents between the Owner and each separate Contractor for the Work under this Project.

END OF DOCUMENT 002113

AIA® Document A701™ – 2018

Instructions to Bidders

for the following Project:
(Name, location, and detailed description)

2021 Roof and Roof Related Work at Various Locations

THE OWNER:

(Name, legal status, address, and other information)

MSD of Wayne Township
1220 S High School Rd, Indianapolis, IN 46241

THE ARCHITECT:

(Name, legal status, address, and other information)

Aaron Conrad, Bldg Envelope Dept
Etica Group
aconrad@eticagroup.com

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ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

FEDERAL, STATE, AND LOCAL LAWS MAY IMPOSE REQUIREMENTS ON PUBLIC PROCUREMENT CONTRACTS. CONSULT LOCAL AUTHORITIES OR AN ATTORNEY TO VERIFY REQUIREMENTS APPLICABLE TO THIS PROCUREMENT BEFORE COMPLETING THIS FORM.

It is intended that AIA Document G612™–2017, Owner's Instructions to the Architect, Parts A and B will be completed prior to using this document.

ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bidding Requirements and the Proposed Contract Documents. The Bidding Requirements consist of the advertisement or invitation to bid, Instructions to Bidders, supplementary instructions to bidders, the bid form, and any other sample bidding and contract forms. The Proposed Contract Documents consist of the form of Agreement between the Owner and Contractor, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, and all Addenda issued prior to execution of the contract.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, AIA Document, or in other Contract Documents are applicable to the Bidding Documents.

§ 1.3 Addenda are written or graphic instruments issued by the Architect, which, by additions, deletions, clarifications, or corrections, modify or interpret the Bidding Documents.

§ 1.4 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents and applicable laws.

§ 1.5 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents, to which Work may be added or deleted by sums stated in Alternate Bids.

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from, or that does not change, the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

§ 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, as described in the Bidding Documents.

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment, or labor for a portion of the Work.

§ 1.10 All communications to the Architect, noted above, shall be in writing.

ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 By submitting a Bid, the Bidder represents that:

§ 2.1.1 The Bidder has read and understands the Bidding Documents or Contract Documents, to the extent that such documentation relates to the Work for which the bid is submitted, and for other portions of the Project, if any, being bid concurrently or presently under construction.

§ 2.1.2 The Bid complies with the Bidding Documents and applicable laws.

§ 2.1.3 The Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, and has correlated the Bidder's observations with the requirements of the Proposed Contract Documents.

§ 2.1.3.1 No claims for extra compensation shall be allowed due to failure of any bidder to examine conditions, which exist at the building site nor for conditions of difficulties encountered in execution of Work, which may have been avoided by such prior examination.

§ 2.1.4 The Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception.

§ 2.2 Each Bidder by submitting a Bid also agrees that, if accepted by the Owner, his bid will be the basis for an agreement directly with the Owner and agrees to enter into such agreement in accordance with the intent of the Contract Documents and the Work.

§ 2.3 It is the purpose and intent of the Contract Documents, that a complete job accomplished. It shall be each Bidder's responsibility to include costs necessary to provide labor, services, equipment, supplies, and materials for that portion of the Work bid upon, including incidentals, whether or not specifically called for in the Specifications and Drawings.

§ 2.4 The Bidder has carefully examined the documents and the construction site and informed himself of the limitations and conditions related to the Work covered by his Bid, and shall include in his Bid a sum to cover the cost of such items. Contractors will not be given extra payments for conditions, which could have been determined by examining the site and documents.

§ 2.5 Each Bidder by making his Bid represents that he has read and understands the Bidding requirements for the Work and contract categories he is submitting a bid on, and further that he has read and understands the Work of other contract categories which require interface with the contract category (s) upon which he is bidding.

§ 2.6 All contractors on this Project are considered Prime Contractors. The Owner will award separate contracts for all Bid categories.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 Copies

§ 3.1.1 Bidders may obtain complete sets of the Bidding Documents from the issuing office designated in the advertisement or invitation to bid in the number and for the deposit sum, if any, stated therein.

(Paragraphs deleted)

The deposit will not be refunded to any prospective Bidders or for Bidders who submit a bona fide Bid and return the Bidding Documents in good condition within ten days after receipt of bids. A Bidder receiving a contract award may retain the Bidding Documents but the Bidder's deposit will not be refunded.

§ 3.1.2 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the advertisement or invitation to bid, or in supplementary instructions to bidders.

§ 3.1.3 Bidders shall consult applicable permit standards, certification standards, accrediting standards, and building standards, and any other laws, rules, or regulations governing the Work to be provided and uses complete sets of Bidding Documents in preparing Bids; neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the lack of familiarity with standards, laws, rules, or regulations governing the Work or use of incomplete sets of Bidding Documents.

§ 3.1.4 The Owner and Architect may make copies of the Bidding Documents available on the above terms for the purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents,

(Paragraph deleted)

§ 3.2 Interpretation or Correction of Bidding Documents

§ 3.2.1 The Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is submitted, shall examine the site and local conditions, and shall at once report to the Architect errors, inconsistencies, or ambiguities discovered.

§ 3.2.2 Prospective Bidders in doubt as to the true meaning of a part of the Drawings, Specifications, or other Contract Documents shall submit to the Owner, not less than 10 business days prior to the date for receipt of bids a written request for interpretation and clarification. Request for "or equal" product approvals shall be addressed in the same manner and shall be submitted on the required form. No verbal answer, solution, interpretations nor acceptance of an "or equal/substitution" shall be honored. Only information issued as part of the Owner's published Documents, including addenda, shall be considered as part of the project.

§ 3.2.3 Interpretations, corrections and changes of the Bidding Documents will be made by Addendum. Interpretations, corrections and changes of the Bidding Documents made in any other manner will not be bidding, and Bidders shall not rely on them.

§ 3.2.4 Bidders are instructed to inform the Architect or Owner if the Contract Documents call for materials, equipment or methods, which adversely affect quality of the Project, or are unavailable.

§ 3.2.5 Architect and Owner's cooperation during Bidding Period:

§ 3.2.5.1 Each Bidder shall contact the Architect and/or Owner when questions arise in analyzing the Drawings and Specifications, and when clarification or additional information is needed. All such communication shall be in writing and through the Owner via email.

§ 3.2.5.2 The Architect and/or Owner will provide information required, provide the Architect's ethical and legal responsibilities to the Owner are not encroached upon. This will include assisting Bidders, upon request, in locating the suppliers of unique products specified, and other assistance as may be helpful in the preparation of a proper, competitive Bid.

§ 3.3 Substitutions

§ 3.3.1 The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution.

§ 3.3.2 No substitution will be considered prior to receipt of bids unless written request for approval has been received by the Architect at least ten (10) business days prior to the date for receipt of Bids. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the work of other contracts that incorporation of the proposed substitution would require, shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

(Paragraphs deleted)

§ 3.3.3 If the Architect approves a proposed substitution prior to receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3.4 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

(Paragraph deleted)

§ 3.4 Addenda

§ 3.4.1 Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding Documents.

§ 3.4.1.1 A copy of the addenda will be mailed, emailed, faxed, or delivered (at the Owner's option) to each prime Bidder of record, and to each prospective prime Bidder requesting a copy. Prime Bidders who request and are sent such documents are considered "Prime Bidders of Records".

§ 3.4.2 Addenda will be available where Bidding Documents are on file.

§ 3.4.3 Addenda will be issued no later than four days prior to the date for receipt of Bids, except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

§ 3.4.4 Prior to submitting a Bid, each Bidder shall ascertain that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

§ 3.4.4.1 Bidders are responsible for acquiring any Addenda and to incorporate those requirements into their Bid.

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

§ 4.1.1 Bids shall be submitted on the forms included with the Bidding Documents.

§ 4.1.1.1 Bids shall be executed upon the current Indiana State Board of Accounts Form No. 96, "Contractor's Bid for Public Works" together with the Supplemental Bid Proposal Forms (if required) provided, and all sections in the forms shall be filled. The signature shall be legible and the completed form shall be without interlineations, alteration, or erasure. Each Bidder is required to bid every item required on his bid form, including alternative and unit costs, if any requested.

§ 4.1.1.2 Each bid, and each exact copy thereof, must be accompanied by a completed Indiana State Board of Accounts Form No. 96. A copy of the Bidder's current financial statement and all other required information and attachments shall be provided with each copy of the Bid. The Bidder shall include information confirming his construction experience, size and history of the organization, and equipment and other resources available to complete the work contemplated.

§ 4.1.1.3 Proposals (Form 96) and the Supplemental Bid Proposal Form shall be accompanied by the following supplemental documents:

1. Bid Security
2. AIA Form A305, Contractor's Qualification Statement
3. Non-Collusion Affidavit
4. Most Recent Financial Statement
5. Written Drug Testing Plan per Indiana Law
6. Certificate of Authority from Secretary of State (Indiana).
7. Documentation showing pre-qualification by the Indiana Public Works Certification Board

§ 4.1.2 All blanks on the bid form shall be legibly executed in a non-erasable medium.

§ 4.1.2.1 Each Bidder shall enumerate in the space provided in his bid the addenda he has incorporated into his proposal.

§ 4.1.2.2 It is the Bidder's responsibility to include in his bid, all costs necessary for a complete and finished product as it relates to his contract category (s). Bids on partial or incomplete contract category (ies) will be considered non-responsive and will be rejected.

§ 4.1.2.3 By submitting a bid, the Bidder confirms that he/she can complete the work in the duration scheduled and in accordance with the Owner's construction schedule.

§ 4.1.2.4 Submit Bids with Bid Security, and other requested supplemental material attached in DUPLICATE; the documents shall be properly and completely executed.

§ 4.1.3 Sums shall be expressed in both words and numbers. In case of discrepancy, the amount entered in words shall govern.

§ 4.1.4 Any interlineations, alteration, or erasure will be grounds for rejection of the proposal. Proposal shall contain no recapitulation of the work to be done.

§ 4.1.4.1 Proposals shall be based on the material, construction, equipment, and methods named or described in the specifications and on the drawing and any addenda issued prior to bidding.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change" or as required by the bid form.

§ 4.1.5.1 Each Bidder, in addition to the submission of his lump sum base bid, shall submit Bids for alternative Bids called for as they relate to the prime contract (s) being bid; failure to submit said Bids shall be sufficient cause for the Owner to reject the Bid in its entirety. The Owner may consider alternative Bids in the awarding of a Contract. This is not mandatory and the acceptance of alternates will depend on available funds.

§ 4.1.5.2 Each Bidder shall be responsible for bidding Alternatives which affect the work of the Contract Categories he is bidding, regardless of whether listed or not listed on the Proposal Form. If an applicable alternative (s) is not listed on the

Proposal Form, the Bidder shall submit on his letterhead the cost of said Alternative (s). No additional monies will be allowed after signing of contracts for failure to bid applicable Alternatives.

§ 4.1.5.3 The Owner retains the right to include or exclude work required by alternatives for the sums established exercisable within 60 calendar days from and including the date of signing the Contract Documents.

§ 4.1.6 Combined Bids

§ 4.1.6.1 Bids shall be submitted for each individual Bid Category. Bids may be submitted for a combination of two or more Bid Categories, provided that individual Bids are submitted for each Bid Category in the combination. A single lump sum combination bid without the individual bids is not acceptable.

§ 4.1.6.2 Separate Bids and combination Bids may be submitted in the same bid envelope. Clearly indicate on the envelope what Bid Categories and Combination Bids are included.

§ 4.1.6.3 A single Bid Bond is acceptable if the amount of the bond is for the maximum amount of any individual bid or combination bid, including alternates.

§ 4.1.7 Each copy of the Bid shall state the legal name and legal status of the Bidder. As part of the documentation submitted with the Bid, the Bidder shall provide evidence of its legal authority to perform the Work in the jurisdiction where the Project is located. Each copy of the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further name the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached, certifying the agent's authority to bind the Bidder.

§ 4.1.8 Proposals shall be signed personally by the Bidder, by a partner, member, or by duly authorized officer for a corporation, and shall give the Bidder's business address, email, and telephone number.

§ 4.1.8.1 Certified copies of resolutions and power of attorney authorizing various individuals to sign the proposals shall be enclosed with proposal.

§ 4.1.8.2 Proposals submitted by a non-Indiana corporation shall be accompanied by a certificate of good standing issued by the Indiana Secretary of State.

§ 4.1.9 Bids, which are signed for a corporation, shall have the attached thereto Power of Attorney evidencing authority to sign the Bid in the name of the person for whom it is signed. Bids, which are signed for a partnership, shall be signed by the partners, or by an attorney-in-fact. If signed by an attorney-in-fact, there shall be attached to the Bid a Power of Attorney evidencing authority to sign the bid, executed by the partners.

§ 4.1.10 Bids, which are signed for a corporation, shall have the authorized officer of the corporation manually written below the corporate name, following the word "By". If such a bid is manually signed by an officer other than the president or vice president of the corporation, a certified copy of a resolution by the Board of Directors evidencing the authority of such official to sign the Bid shall be attached to it. The bid shall also bear the attesting signature of the secretary of the corporation and the impression of the corporate seal.

§ 4.2 Bid Security

§ 4.2.1 Each Bid shall be accompanied by

(Paragraphs deleted)

a bid security in the form and amount required if so stipulated in the instructions to Bidders. The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and will, if required, furnish bonds covering the faithful performance of the Contract Documents and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish bonds if required, the amount of the Bid Security shall be forfeited to the Owner as liquidated damages, not as a penalty. The amount of the Bid Security shall not be forfeited to the Owner in the event the Owner fails to comply with Section 6.2.

§ 4.2.1.1 The Bid Security shall be in the amount of 5%, in accordance with the Advertisement for Bids and applicable law.

§ 4.2.1.2 Bid Security of Bidders, except the 3 selected best qualified in each category, may be returned within 14 days after the opening of Bids, at the Owner's option.

§ 4.2.2 If a surety bond is required as bid security, it shall be written on AIA Document A310™, Bid Bond, unless otherwise provided in the Bidding Documents. The attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 4.2.3 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until (a) the Contract has been executed and bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected.

(Paragraph deleted)

§ 4.2.3.1 Bid Security of up to three apparent lowest responsible and responsive bidders in each category may be held by the Owner, following the Bid Opening, for not more than the maximum number of days stipulated in the Notice to Bidders, unless the Owner and the Bidders agree otherwise; except that in the event a qualified bidder has been awarded the Contract for the Work, and has failed to execute the Contract Documents acceptable to Owner, and furnish performance bond, then the Bid Security of such bidder will be subject to forfeit, and the next qualified bidder, if tendered the Contract for the Work, will be subject to the same provisions as hereinbefore set forth. Should the award fall to the third qualified Bidder because of a default of the previous two qualified bidders, the same condition will apply to the third bidder as hereinbefore set forth.

§ 4.2.3.2 The bid security of the unsuccessful bidders of each Contract category will be returned after the Form of Agreement has been executed by the Owner.

§ 4.2.3.3 In the event that the Owner should decide to reject all Bids in connection with a given Contract or Contracts, the Bid Securities in connection with the Contracts will be returned within 3 business days following such decision.

§ 4.3 Submission of Bids

§ 4.3.1

(Paragraphs deleted)

All copies of the Bid, the bid security, if any, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address, and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

§ 4.3.1.1 The bid envelope shall be identified as follows:

SEALED BID

TO: Mr. Barry Gardner, CFO
MSD of Wayne Township
1220 S High School Rd
Indianapolis, IN 46241

BID ON: Category Name and Number

PROJECT NAME:

SUBMITTED BY: Company Name and Address

BID DATE AND BID OPENING TIME: _____

§ 4.3.2 Bids shall be deposited at the designated location prior to the time and date for receipt of Bids or prior to any extension thereof issued by addenda. Bids received after the time and date for receipt of Bids will be returned unopened.

§ 4.3.3 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.4 Oral, telephonic, telegraphic, facsimile or other electronically transmitted Bids will not be considered.

§ 4.3.5 Taxes. Materials and supplies purchased by contracts with the Owner that become a permanent part of the structure or facilities constructed are currently not subject to the Indiana Gross Retail Tax (Sales Tax). The contractor shall obtain a copy of the Owner's exemption certificate and then issue copies of this certificate to his suppliers when acquiring materials and properties for use on the Project. The Contractor shall enforce this exemption clause for his purchases and for those of his subcontractors.

§ 4.3.6 Out-of-State Contractors

§ 4.3.6.1 Proof of payment by out-of-state Contractors of Indiana Gross Income Tax, as provided in Chapter 370, Section 2, Subsection E, Acts of 1947, shall be submitted before final payment will be approved. Out-of-state contractors should be authorized to do business in the state of Indiana and their Bid shall be accompanied by a "Certificate of Authority" issued by the Indiana Secretary of State. Forms may be obtained by contacting the Secretary of State, State of Indiana, Indianapolis, Indiana, and proof thereof submitted with the Bidder's proposal at the time of bidding.

§ 4.3.6.2 if the out-of-state Contractor is not a corporation, or is a corporation but does not obtain authorization to do business in the State of Indiana, applicable taxes will be withheld by the Owner.

§ 4.4 Modification or Withdrawal of Bid

§ 4.4.1 A Bid may not be modified, withdrawn or canceled by the Bidder during the stipulated time period following the time and date designated for the receipt of Bids, and each Bidder so agrees in submitting a Bid.

§ 4.4.2 Prior to the date and time designated for receipt of Bids, a Bidder may submit a new Bid to replace a Bid previously submitted, or withdraw its Bid entirely, by notice to the party designated to receive the Bids. Such notice shall be received and duly recorded by the receiving party on or before the date and time set for receipt of Bids. The receiving party shall verify that replaced or withdrawn Bids are removed from the other submitted Bids and not considered. Notice of submission of a replacement Bid or withdrawal of a Bid shall be worded so as not to reveal the amount of the original Bid.

§ 4.4.3 Withdrawn Bids may be resubmitted up to the date and time designated for
(Paragraphs deleted)

the receipt of Bids in the same format as that established in Section 4.3, provided they fully conform with these Instructions to Bidders. Bid security shall be in an amount sufficient for the Bid as resubmitted.

§ 4.4.4 Bid security, if required, shall be in an amount sufficient for the Bid as resubmitted.

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 Opening of Bids

(Paragraph deleted)

§ 5.1.1 The Notice to Bidders indicates the time and place fixed for opening Bids.

§ 5.1.2 Bid received prior to the time of opening will be securely kept, unopened. The officer whose duty is to open them will decide when the specified time has arrived, and no bid received thereafter will be accepted or considered responsive.

§ 5.1.3 No responsibility will be attached to an officer for the premature opening of a bid not properly addressed and identified.

§ 5.1.4 Every Bid received within the time fixed for the receiving of Bids will be opened and read aloud. Bidders and other interested persons may be present in person or by representative.

§ 5.1.5 The amounts involved in alternatives requested will be read or disclosed as part of the requirements of this Article. Voluntary alternates will not be read or considered.

§ 5.1.6 The Owner reserves the right to delay the time for opening of Bids when, in his judgement, it is desirable or necessary.

§ 5.1.7 The Bids will be reviewed for completeness and irregularity by the owner after the Bid opening.

§ 5.2 Rejection of Bids

§ 5.2.1 The Owner shall have the right to reject any or all Bids. A Bid not responsive, accompanied by a required bid security, or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.

§ 5.2.2 The Owner reserves the right to reject each and every bid, to reject all Bids in a given category, to waive formalities and informalities in bidding, to accept and reject alternatives, regardless of their order or sequence.

§ 5.2.3 The right is reserved to reject a Bid where an investigation of the available evidence of information does not satisfy the Owner that the Bidder is responsible, responsive, or qualified to complete the Work or properly carry out the terms of the Contract Documents.

§ 5.2.4 Bona fide bids in a definite stated amount for a complete Contract Category without special clauses governing price of labor and material increases, shall be the only ones that will be considered. No contract shall be entered into carrying what is commonly known as "Escalator Clause".

§ 5.2.5 Bids which contain qualifications or conditions that are contrary to the text or intent of the Contract Documents, do not comply with applicable public works and public contract laws, and which are inserted in the Bid for the purpose of limiting or otherwise qualifying the responsibility of the Bidder, outside of the text or intent of the Contract Documents, will be subject to disqualification.

§ 5.2.6 Failure to submit the requested information with the Bid may be grounds for rejecting the Bid.

§ 5.2.7 In determining whether a bidder is a responsible bidder, the Owner may consider the following factors: 1. The ability and capacity of the bidder to perform the work. 2. The integrity, character, and reputation of the bidder. 3. The competence and experience of the bidder. The Owner also reserves the right to reject the Bid of a Bidder who has previously failed to perform properly or to complete Contracts of a similar nature on time, who is not in a position to perform the Contract, or who has habitually, and without just cause neglected the payment of bills or otherwise disregarded his obligations to subcontractors, suppliers, vendors, materialmen or employees.

§ 5.3 Acceptance of Bid (Award)

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest responsive and responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's own best interests. In determining whether a bidder is responsive, the Owner may consider the following factors: (A) Whether the bidder has submitted a bid or quote that conforms in all material respects to the specifications. (B) Whether the bidder has submitted a bid that complies specifically with the invitation to bid and the instructions to bidders. (C) Whether the bidder has complied with all applicable statutes, ordinances, resolutions, or rules pertaining to the award of a public contract. In determining whether a bidder is a responsible bidder, the Owner may consider the following factors: (A) The ability and capacity of the bidder to perform the work. (B) The integrity, character, and reputation of the bidder. (C) The competence and experience of the bidder.

§ 5.3.1.1 In determining the lowest responsible and responsive bidder, the following elements, in addition to those above mentioned, will be considered. Whether the bidder involved (1) maintains a permanent place of business in Indiana (2) has adequate material, supplies, labor, and equipment available to do the work properly and expeditiously, (3) has suitable financial resources to meet the obligations incidental to the Work, and (4) has appropriate technical experience and compliance with DOL and EEOC requirements.

§ 5.3.2 The Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the lowest responsive and responsible Bidder on the basis of the sum of the Base Bid and Alternates accepted.

§ 5.3.2.1 Unit prices, if requested, will not be considered in the award and determination of the lowest bid.

§ 5.4 The Contract shall be deemed as having been awarded when formal "Notice to Proceed" shall have been duly served upon the intended awardee.

§ 5.5 Time of Commencement and Completion

§ 5.5.1 The contractor shall commence Work within five (5) business days after receipt of notice-to-proceed or as indicated on the Milestone Schedule, and shall complete the work within the time limitations established by the Contract Documents, Owner's schedule and most current project schedule.

ARTICLE 6 POST-BID INFORMATION

§ 6.1 Contractor's Qualification Statement

Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request a properly executed AIA Document A305™, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted for this Bid.

(Paragraphs deleted)

§ 6.1.1 The Owner will have the right to take such other steps as he deems necessary to determine the ability of the Bidder to perform the Work, and the Bidder shall furnish the Owner requested documentation for this purpose.

§ 6.3 Submittals

§ 6.3.1

(Paragraphs deleted)

The apparent lowest Bidder for each contract, and the 2nd and 3rd lowest bidders for each contract, shall provide a completed "Subcontractor and Material Supplier List", no later than one (1) business day after the time set for receipt of Bids.

§ 6.3.1.1 The Owner and Architect have the right to choose the subcontractor, Material, Supplies, or Equipment for any particular item where the Bidder fails to list the same.

§ 6.3.1.2 When products are named and a list of acceptable manufacturers is included in the specifications, Bidders shall select one of the named manufacturers in his Subcontractors and Materials List.

§ 6.3.1.3 After the submission and approval of this Subcontractors and Materials List by the Architect and Owner, the Contractor shall make no changes or alterations without the written approval of the Architect and Owner.

§ 6.3.2 The Bidder will be required to establish to the satisfaction of the Architect and Owner the qualifications, reliability, and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

§ 6.3.3 Prior to the execution of the Contract, the Owner and Architect will notify the Bidder in writing if either the Owner or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, (1) withdraw the Bid or (2) submit an acceptable substitute person or entity with an adjustment in the Base Bid or Alternate Bid to cover the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.

§ 6.3.4 Persons and entities proposed by the Bidder and to whom the Owner and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 Bond Requirements

§ 7.1.1 If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract, completion of the Work, and payment of all obligations arising thereunder. Bonds may be secured through the Bidder's usual sources.

§ 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.

§ 7.1.3 The successful Bidder, awarded the contracts on the Work and prior to the execution of the Form of Agreement, shall be required to provide a Performance Bond and Labor and Materials Payment Bond, covering completion of the Work, the faithful performance of the contract, and the payment of obligations arising there under in a penalty sum equal to One Hundred percent (100%) of the amount of the contract sum. Said bonds shall remain in effect for 24 months after date established as start of two-year guarantee period.

§ 7.1.4 Bonds shall be submitted on AIA Document A312 or adequate and proper surety company form conforming to the AIA Document A312.

§ 7.1.5 It is required that the surety company complies with the following:

§ 7.1.5.1 Be listed in the Federal register, latest applicable issue, by the U.S. Department of Treasury, Fiscal Service, Bureau of Government Financial Operations (Circular #570).

§ 7.1.5.2 Not exceed, at the time of bidding or issuance of a Contract for his project, the underwriting limitations (on any one risk) as stipulated in the Federal Register.

§ 7.1.5.3 Be acceptable to the Owner and Indiana State Board of Accounts.

§ 7.2 Time of Delivery and Form of Bonds

§ 7.2.1 The Bidder shall deliver the required bonds and insurance forms to the Owner along with the executed Contract Documents.

§ 7.2.2 Bonds shall be executed and be in force on the date of the Notice to Proceed or Contract date if a Notice-to-Proceed is not issued.

§ 7.2.3 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney indicating the monetary limit of such power.

(Paragraphs deleted)

ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

§ 8.1.1 AIA Document Standard Form of Agreement Between Owner and Contractor, modified by the Owner for the Work, is to be used. The agreement must contain terms and conditions acceptable to Owner, will be modified to comply with applicable laws, and add a listing Contract Documents, which are to be part of the Terms and Conditions of the Agreement (i.e. List of Drawings, Specifications, etc.).

§ 8.1.2 The failure of the Awardee to execute the Contract and to supply the required bonds when the Agreement is presented for signature, or within such extended period as the Owner may grant, based upon reasons determined adequate by the Owner, shall constitute a default; and the Owner may either award the Contract to the next lowest responsible and responsive bidder or re-advertise for Bids. In the event of a default, the Owner shall have the right to declare the amount of the Bid security forfeited. It shall be a further condition that the Owner shall not collect more on a defaulted bid than the difference between the defaulted bid amount and the Bid of the firm to which the award is made, after giving due weight and consideration to alternatives accepted.

ARTICLE 9 MISCELLANEOUS REQUIREMENTS

§ 9.01 Wage rates shall not apply to this Project. All Bidders and Sub-Contractors must agree to and shall comply with the provisions of Indiana Code, public work statutes, and public contract statutes as applicable to the Work.

§ 9.02 All Bidders and Sub-Contractors must agree to and shall comply with the applicable provisions of Indiana Code §§ 5-16-6, 5-16-13, et seq, and 36-1-12, et seq.

§ 9.03 The Bidder must certify before entering into a contract with Owner that neither it nor its principals nor any of its sub-contractors are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from entering into a contract with Owner by any federal agency or by any department, agency or political subdivision of the State of Indiana.

§ 9.04 The Bidder must agree it shall execute its responsibilities by following and applying at all time the highest professional and technical guidelines and standards. If the Owner becomes dissatisfied with the work product of or the working relationship with those individuals assigned to work on this project, the Owner may request in writing the replacement of any or all such individuals, and the Bidder shall grant such request.

§ 9.05 The Bidder shall implement the employee drug testing program submitted as part of its Bid. The Bidder must also covenant and agree to make a good faith effort to provide and maintain a drug-free workplace and conduct criminal background checks on any personnel present on Owner's property.

§ 9.06 The Bidder must warrant the Bidder and its subcontractors, will obtain and maintain all required permits, licenses, registrations, and approvals, and shall comply with all insurance, unemployment, workers compensation, health, safety, and environmental statutes, rules, or regulations in the performance of work activities.

§ 9.07 The Bidder must swear and affirm under the penalties of perjury it does not knowingly employ an unauthorized alien and complies with Indiana Code §§ 22-5-1.7.

§ 9.08 When the Owner makes a written determination that funds are not appropriated or otherwise available to support continuation of performance of the Contract, Bidder understands the Contract shall be cancelled at Owner's option.

§ 9.09 The bidder must agree to indemnify, defend, and hold harmless the Owner, its agents, officials, and employees from all claims and suits including court costs, attorney fees, and other expenses caused by any act or omission of the Bidder and/or its subcontractors, in the performance of this Contract. The Owner shall not provide such indemnification to the Bidder.

§ 9.10 The Bidder must agree to comply with all applicable federal, state, and local laws, rules, regulations, and ordinances, and all provisions required thereby to be included in the Contract Documents will be incorporated by reference.

§ 9.11 The Bidder must agree to warrant and guarantee all materials and equipment incorporated in the Work shall be new unless otherwise specified, and all the Work will be of the highest quality, free from faults and defects, and in strict conformance with the Contract Documents for a period of two years from the date of substantial completion. Any work not so conforming to the Contract Documents may be considered defective. If required by the Owner, the Bidder must agree to furnish satisfactory evidence as to the kind and quality of materials and equipment. The warranties and guarantees outlined in this document and elsewhere in the Contract Documents shall be in addition to and not in limitation of any other warranty or guarantee or remedy called for the Contract Documents, allowed by the manufacturer, or otherwise prescribed by law. The Bidder, together with the Architect and representative from the Owner, shall review the work nine (9) months after the date of substantial completion to determine any work not in compliance with the Contract Documents. The Bidder must agree to correct such non-complying work prior to the expiration of the two year warranty.

(Table deleted)(Paragraphs deleted)(Paragraphs deleted)



AIA[®] Document A305[™] – 1986

Contractor's Qualification Statement

The Undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

SUBMITTED TO: MSD of Wayne Township

ADDRESS: 1220 S. High School Rd., Indianapolis, IN 46241

SUBMITTED BY:

NAME:

ADDRESS:

PRINCIPAL OFFICE:

- ☐ Corporation
- ☐ Partnership
- ☐ Individual
- ☐ Joint Venture
- ☐ Other

NAME OF PROJECT: *(if applicable)*

TYPE OF WORK: *(file separate form for each Classification of Work)*

- ☐ General Construction
- ☐ HVAC
- ☐ Electrical
- ☐ Plumbing
- ☐ Other: *(Specify)*

§ 1 ORGANIZATION

§ 1.1 How many years has your organization been in business as a Contractor?

§ 1.2 How many years has your organization been in business under its present business name?

§ 1.2.1 Under what other or former names has your organization operated?

§ 1.3 If your organization is a corporation, answer the following:

§ 1.3.1 Date of incorporation:

§ 1.3.2 State of incorporation:

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This form is approved and recommended by the American Institute of Architects (AIA) and The Associated General Contractors of America (AGC) for use in evaluating the qualifications of contractors. No endorsement of the submitting party or verification of the information is made by AIA or AGC.

- § 1.3.3 President's name:
§ 1.3.4 Vice-president's name(s)

- § 1.3.5 Secretary's name:
§ 1.3.6 Treasurer's name:

§ 1.4 If your organization is a partnership, answer the following:

- § 1.4.1 Date of organization:
§ 1.4.2 Type of partnership (if applicable):
§ 1.4.3 Name(s) of general partner(s)

§ 1.5 If your organization is individually owned, answer the following:

- § 1.5.1 Date of organization:
§ 1.5.2 Name of owner:

§ 1.6 If the form of your organization is other than those listed above, describe it and name the principals:

§ 2 LICENSING

§ 2.1 List jurisdictions and trade categories in which your organization is legally qualified to do business, and indicate registration or license numbers, if applicable.

§ 2.2 List jurisdictions in which your organization's partnership or trade name is filed.

§ 3 EXPERIENCE

§ 3.1 List the categories of work that your organization normally performs with its own forces.

§ 3.2 Claims and Suits. (If the answer to any of the questions below is yes, please attach details.)

§ 3.2.1 Has your organization ever failed to complete any work awarded to it?

§ 3.2.2 Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers?

§ 3.2.3 Has your organization filed any law suits or requested arbitration with regard to construction contracts within the last five years?

§ 3.3 Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract? (If the answer is yes, please attach details.)

§ 3.4 On a separate sheet, list major construction projects your organization has in progress, giving the name of project, owner, architect, contract amount, percent complete and scheduled completion date.

§ 3.4.1 State total worth of work in progress and under contract:

§ 3.5 On a separate sheet, list the major projects your organization has completed in the past five years, giving the name of project, owner, architect, contract amount, date of completion and percentage of the cost of the work performed with your own forces.

§ 3.5.1 State average annual amount of construction work performed during the past five years:

§ 3.6 On a separate sheet, list the construction experience and present commitments of the key individuals of your organization.

§ 4 REFERENCES

§ 4.1 Trade References:

§ 4.2 Bank References:

§ 4.3 Surety:

§ 4.3.1 Name of bonding company:

§ 4.3.2 Name and address of agent:

§ 5 FINANCING

§ 5.1 Financial Statement.

§ 5.1.1 Attach a financial statement, preferably audited, including your organization's latest balance sheet and income statement showing the following items:

Current Assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses);

Net Fixed Assets;

Other Assets;

Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes);

Other Liabilities (e.g., capital, capital stock, authorized and outstanding shares par values, earned surplus and retained earnings).

§ 5.1.2 Name and address of firm preparing attached financial statement, and date thereof:

§ 5.1.3 Is the attached financial statement for the identical organization named on page one?

§ 5.1.4 If not, explain the relationship and financial responsibility of the organization whose financial statement is provided (e.g., parent-subsiary).

§ 5.2 Will the organization whose financial statement is attached act as guarantor of the contract for construction?

§ 6 SIGNATURE

§ 6.1 Dated at this day of

Name of Organization:

By:

Title:

§ 6.2

M being duly sworn deposes and says that the information provided herein is true and sufficiently complete so as not to be misleading.

Subscribed and sworn before me this day of

Notary Public:

My Commission Expires:



MSD OF WAYNE TOWNSHIP
2021 Roof and Roof Related Work at
Various Locations

01/2021

Comm. #200220

Contractor's are to use this Bid form as a supplement to the Form 96 (revised 2009) and shall include it with their Bid packet.

DOCUMENT 004113 - CONTRACTOR'S SUPPLEMENT BID FORM

Bid To:

METROPOLITAN SCHOOL DISTRICT of WAYNE TOWNSHIP
1220 South High School Road
Indianapolis, Indiana, 46241

Project Bidding: 2021 Roof and Roof Related Work at Ben Davis High School, Westlake Elementary School, McClelland Elementary School, and Chapelwood Elementary School
Metropolitan School District of Wayne Township

Following notices given and having fully and carefully examined the plans, specifications and addendums, as prepared by the etica group architects engineers, as well as visited said project site or sites, to view the premises and conditions affecting the said work, the undersign proposes to furnish all labor, materials, necessary tools, equipment to perform the work required by and in strict accordance with the above named documents. Our bid is as follows:

Project One Base Work: for the removal of existing roof system and installation of new roof system to various areas at **Ben Davis High School** for the following **Base Bid Sum of:**

_____ Dollars \$ _____

Project One Alternate One: for the removal of existing roof system and installation of new roof system to additional areas at **Ben Davis High School** for the following **Alternate One Bid Sum of:**

ADD _____ Dollars \$ _____

Project One Alternate Two: for the removal of existing roof system and installation of new roof system to additional areas at **Ben Davis High School** for the following **Alternate Two Bid Sum of:**

ADD _____ Dollars \$ _____



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Project Two Base Work: for the removal of existing roof system and installation of new roof system to various areas at **Westlake Elementary School** for the following **Base Bid Sum of:**

_____ Dollars \$ _____

Project Two Alternate One: for the removal of existing roof system and installation of new roof system to additional areas at **Westlake Elementary School** for the following **Alternate One Bid Sum of:**

ADD _____ Dollars \$ _____

Project Two Alternate Two: for the removal of existing roof system and installation of new roof system to additional areas at **Westlake Elementary School** for the following **Alternate Two Bid Sum of:**

ADD _____ Dollars \$ _____

Project Two Alternate Three: for the removal of existing roof system and installation of new roof system to additional areas at **Westlake Elementary School** for the following **Alternate Three Bid Sum of:**

ADD _____ Dollars \$ _____

Project Two Alternate Four: for the masonry repairs to the existing chimney identified at **Westlake Elementary School** for the following **Alternate Four Bid Sum of:**

ADD _____ Dollars \$ _____

Project Three Base Work: for the removal of existing roof system and installation of new roof system to various areas at **McClelland Elementary School and Chapelwood Elementary School** for the following **Base Bid Sum of:**

_____ Dollars \$ _____

Project Three Alternate One: for the removal of existing roof system and installation of new roof system to additional areas at **McClelland Elementary School** for the following **Alternate One Bid Sum of:**

ADD _____ Dollars \$ _____

Project Three Alternate Two: for the removal of existing roof system and installation of new roof system to additional areas at **McClelland Elementary School** for the following **Alternate Two Bid Sum of:**

ADD _____ Dollars \$ _____



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Unit Prices:

1. Bidder shall state the amount to remove and replace any damaged or deteriorated existing wood blocking with new wood blocking.

\$ _____ per lineal foot

2. Bidder shall state the amount to remove and replace any damaged or deteriorated existing metal deck with new metal deck.

\$ _____ per sq foot

Addendum(s):

The Bidder acknowledges receipt of the following addendum(s) issued, which cover changes to the plans and specifications, has reviewed and noted these changes and that the cost of such changes, if any, are include in the above quoted Base Bid and Alternates.

Addendum # _____ Date received _____

Addendum # _____ Date received _____

Addendum # _____ Date received _____

Completion Time:

The Bidder, by signing this Bid Form Supplement, acknowledges the specified completion time schedule as identified in the Supplementary Instruction to Bidders and agrees to begin the awarded work promptly and have said work completed within in this specified completion time schedule.

Pre-bid Conference Attendance:

The Bidder acknowledges the following individual listed, represented their company and attended the Pre-bid conference for this project and that this individual(s) relayed all the information discussed at this Pre-bid meeting:

Name and Title



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Guarantee of Prices:

By signing this supplement bid form, the Bidder agrees to hold and guarantee their Bid prices for sixty (60) days from the Bid submitted date and that the Bidder will enter into an Agreement with the Owner to perform the work for the stated Bid amounts any time during this sixty (60) day period.

Contractor's Statement of Materials:

The Bidder acknowledges the following Roofing System Manufacturer listed, is **THE** Roofing System Manufacturer they intend to use for this project and their Bid Prices reflect using **only** this Roofing System Manufacturer's products.

Modified Bitumenious _____

Thermoplastic _____

Contractor's Statement of Equal Employment Opportunity:

The Bidder declares to the Board of School Trustees for the Metropolitan School District of Wayne Township the following with respect to equal Employment opportunity:

1. That in the hiring of employees for the performance of work under any Contract or any sub-contract with the Metropolitan School District of Wayne Township, neither it nor any of their sub-contractors, nor any persons acting on behalf of them or any of their sub-contractors, shall by reason of race, religion, color, sex, national origin of ancestry, discriminate against any citizen of the State of Indiana, who is qualified and available to perform the work to which employment relates.
2. That neither them nor any of their sub-contractors, nor any persons acting on behalf of them or any of their sub-contractors, shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this contract on account of race, religion, color, sex, national origin of ancestry.
3. That they understand and agrees that any contract with Metropolitan School District of Wayne Township may be canceled or terminated by the Metropolitan School District of Wayne Township and all money due or to be come due there under may be forfeited, for any subsequent violation of this policy.



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Legal Status of Bidder:

The Bidder states the following address is where they receive served or mailed communications:

Street _____

City _____ State _____ Zip _____

The Bidder declares their Legal Status as:

(Sole Proprietor, Partnership or Corporation)

The Bidder states the name(s) and address(s) of all parties who are partied to this Bid:

(Name of Entity or Entities)

(Address(s))

(Name(s) and Title)

(Signature)

Signed and Sealed this

_____ Day of _____ Year _____

End of Contractor's Supplement Bid Form



CONTRACTOR'S BID FOR PUBLIC WORK - FORM 96

State Form 52414 (R2 / 2-13) / Form 96 (Revised 2013)

Prescribed by State Board of Accounts

PART I

(To be completed for all bids. Please type or print)

Date (month, day, year): _____

1. Governmental Unit (Owner): _____

2. County : _____

3. Bidder (Firm): _____

Address: _____

City/State/ZIPcode: _____

4. Telephone Number: _____

5. Agent of Bidder (if applicable): _____

Pursuant to notices given, the undersigned offers to furnish labor and/or material necessary to complete the public works project of _____

(Governmental Unit) in accordance with plans and specifications prepared by _____

_____ and dated _____ for the sum of

_____ \$ _____

The undersigned further agrees to furnish a bond or certified check with this bid for an amount specified in the notice of the letting. If alternative bids apply, the undersigned submits a proposal for each in accordance with the notice. Any addendums attached will be specifically referenced at the applicable page.

If additional units of material included in the contract are needed, the cost of units must be the same as that shown in the original contract if accepted by the governmental unit. If the bid is to be awarded on a unit basis, the itemization of the units shall be shown on a separate attachment.

The contractor and his subcontractors, if any, shall not discriminate against or intimidate any employee, or applicant for employment, to be employed in the performance of this contract, with respect to any matter directly or indirectly related to employment because of race, religion, color, sex, national origin or ancestry. Breach of this covenant may be regarded as a material breach of the contract.

CERTIFICATION OF USE OF UNITED STATES STEEL PRODUCTS

(If applicable)

I, the undersigned bidder or agent as a contractor on a public works project, understand my statutory obligation to use steel products made in the United States (I.C. 5-16-8-2). I hereby certify that I and all subcontractors employed by me for this project will use U.S. steel products on this project if awarded. I understand that violations hereunder may result in forfeiture of contractual payments.

ACCEPTANCE

The above bid is accepted this _____ day of _____, _____, subject to the following conditions: _____

Contracting Authority Members:

_____	_____
_____	_____
_____	_____

PART II

(For projects of \$150,000 or more – IC 36-1-12-4)

Governmental Unit: _____

Bidder (Firm) _____

Date (month, day, year): _____

These statements to be submitted under oath by each bidder with and as a part of his bid.
Attach additional pages for each section as needed.

SECTION I EXPERIENCE QUESTIONNAIRE

1. What public works projects has your organization completed for the period of one (1) year prior to the date of the current bid?

Contract Amount	Class of Work	Completion Date	Name and Address of Owner

2. What public works projects are now in process of construction by your organization?

Contract Amount	Class of Work	Expected Completion Date	Name and Address of Owner

3. Have you ever failed to complete any work awarded to you? _____ If so, where and why?

4. List references from private firms for which you have performed work.

SECTION II PLAN AND EQUIPMENT QUESTIONNAIRE

1. Explain your plan or layout for performing proposed work. *(Examples could include a narrative of when you could begin work, complete the project, number of workers, etc. and any other information which you believe would enable the governmental unit to consider your bid.)*

2. Please list the names and addresses of all subcontractors *(i.e. persons or firms outside your own firm who have performed part of the work)* that you have used on public works projects during the past five (5) years along with a brief description of the work done by each subcontractor.

3. If you intend to sublet any portion of the work, state the name and address of each subcontractor, equipment to be used by the subcontractor, and whether you will require a bond. However, if you are unable to currently provide a listing, please understand a listing must be provided prior to contract approval. Until the completion of the proposed project, you are under a continuing obligation to immediately notify the governmental unit in the event that you subsequently determine that you will use a subcontractor on the proposed project.

4. What equipment do you have available to use for the proposed project? Any equipment to be used by subcontractors may also be required to be listed by the governmental unit.

5. Have you entered into contracts or received offers for all materials which substantiate the prices used in preparing your proposal? If not, please explain the rationale used which would corroborate the prices listed.

SECTION III CONTRACTOR'S FINANCIAL STATEMENT

Attachment of bidder's financial statement is mandatory. Any bid submitted without said financial statement as required by statute shall thereby be rendered invalid. The financial statement provided hereunder to the governing body awarding the contract must be specific enough in detail so that said governing body can make a proper determination of the bidder's capability for completing the project if awarded.

SECTION IV CONTRACTOR'S NON – COLLUSION AFFIDAVIT

The undersigned bidder or agent, being duly sworn on oath, says that he has not, nor has any other member, representative, or agent of the firm, company, corporation or partnership represented by him, entered into any combination, collusion or agreement with any person relative to the price to be bid by anyone at such letting nor to prevent any person from bidding nor to include anyone to refrain from bidding, and that this bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding.

He further says that no person or persons, firms, or corporation has, have or will receive directly or indirectly, any rebate, fee, gift, commission or thing of value on account of such sale.

SECTION V OATH AND AFFIRMATION

I HEREBY AFFIRM UNDER THE PENALTIES FOR PERJURY THAT THE FACTS AND INFORMATION CONTAINED IN THE FOREGOING BID FOR PUBLIC WORKS ARE TRUE AND CORRECT.

Dated at _____ this _____ day of _____, _____

(Name of Organization)

By _____

(Title of Person Signing)

ACKNOWLEDGEMENT

STATE OF _____)
COUNTY OF _____) ss

Before me, a Notary Public, personally appeared the above-named _____ and swore that the statements contained in the foregoing document are true and correct.

Subscribed and sworn to before me this _____ day of _____, _____.

Notary Public

My Commission Expires: _____

County of Residence: _____

BID OF

(Contractor)

(Address)

FOR
PUBLIC WORKS PROJECTS
OF

Filed _____, _____

Action taken _____



Comm. #200220

MSD OF WAYNE TOWNSHIP
2021 Roof and Roof Related Work at
Various Locations

01/2021

DOCUMENT 004313 - BID SECURITY FORMS

1.1 BID FORM SUPPLEMENT

- A. A completed bid bond form is required to be attached to the Bid Form.

1.2 BID BOND FORM

- A. AIA Document A310, "Bid Bond," is the recommended form for a bid bond. A bid bond acceptable to Owner, or other bid security as described in the Instructions to Bidders, is required to be attached to the Bid Form as a supplement.
- B. Copies of AIA standard forms may be obtained from The American Institute of Architects; www.aia.org/contractdocs/purchase/index.htm; email: docspurchases@aia.org; (800) 942-7732.

END OF DOCUMENT 004313

AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

MSD of Wayne Township
1220 S High School Rd, Indianapolis, IN 46241

BOND AMOUNT: \$**PROJECT:**

(Name, location or address, and Project number, if any)

2021 Roof and Roof Related Work at Various Locations

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Init.

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User Notes:

(880430147)

Signed and sealed this day of ,

(Contractor as Principal) (Seal)

(Witness)

(Title)

(Surety) (Seal)

(Witness)

(Title)

Init.

/



Comm. #200220

MSD OF WAYNE TOWNSHIP
2021 Roof and Roof Related Work at
Various Location

01/2021

SECTION 004393 - BID SUBMITTAL CHECKLIST

1.1 BID INFORMATION

- A. Bidder: _____.
- B. Project Name: **2021 Roof and Roof Related Work at Various Locations**
- C. Owner: **MSD of Wayne Township**
- D. Architect: **Etica Group**
- E. Architect Project Number: **200220**

1.2 BIDDER'S CHECKLIST

- A. In an effort to assist the Bidder in properly completing all documentation required, the following checklist is provided for the Bidder's convenience. The Bidder is solely responsible for verifying compliance with bid submittal requirements.
- B. Attach this completed checklist to the front of each copy of the Bid Packet:

- 1. _____ **AIA Form A310, Bid Security**
- 2. _____ **AIA Form A305, Contractor's Qualification Statement**
- 3. _____ **Non-Collusion Affidavit**
- 4. _____ **Most Recent Financial Statement**
- 5. _____ **Written Drug Testing Plan per Indiana Law**
- 6. _____ **Certificate of Authority from Secretary of State (Indiana).**
- 7. _____ **Documentation showing pre-qualification by the Indiana Public Works Certification Board**
- 8. _____ **Form 96-Contractor's Bid for Public Work**
- 9. _____ **Contractor's Supplement Bid Form**

END OF SECTION 004393



MSD OF WAYNE TOWNSHIP
2021 Roof and Roof Related Work at
Various Location

01/2021

Comm. #200220

DOCUMENT 004413 – GENERAL CONDITIONS

1.1 GENERAL CONDITIONS

- A. AIA Document A201, "General Conditions of the Contract for Construction," is hereby incorporated into the Procurement and Contracting Requirements.
 - 1. AIA Documents A201, "General Conditions of The Contract for Construction - (2007 Edition), Articles 1 through 14, as published by The American Institute of Architects, 1735 New York Avenue, N.W. Washington, D.C. 20006 are hereby, except as may be inconsistent herewith, made part of these Bidding Documents. These General Conditions apply equally to and are part of all Bidding Documents between the Owner and each separate Contractor for the Work under this Project.

END OF DOCUMENT 004413

AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

2021 Roof and Roof Related work at Various Locations

THE OWNER:

(Name, legal status and address)

MSD of Wayne Township
1220 S High School Rd, Indianapolis, IN 46241

THE ARCHITECT:

(Name, legal status and address)

Aaron Conrad, Bldg Envelope Dept
Etica Group
aconrad@eticagroup.com

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

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- 5 SUBCONTRACTORS
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- 7 CHANGES IN THE WORK
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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, or other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract, Notice to Bidders, Instructions to Bidders, the Bid form, and Contractor's completed Bid except any exclusions, alterations, or changes made by Contractor intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, supplies, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project. The contractor acknowledges and agrees the Contract Documents are sufficient to provide for the completion of the Work and include Work, whether or not shown or described, which reasonably may be inferred to be required or useful for the completion of the Work in accordance with applicable laws, codes and customary standards of the construction industry.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. Drawings do not indicate every offset, fitting and accessory required to avoid all conflict with other trades. Contractor shall check drawings of other trades to verify spaces available and make reasonable modifications, as directed, without extra cost to the Owner. Contractor shall maintain headroom and other space requirements in all areas and where such requirements appear inadequate, notify the Architect before proceeding with the work.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.2.4 If there should be a conflict between two or more of the Contract Documents, the following order of interpretation shall apply;

§ 1.2.4.1 The terms and conditions as set forth in the Bidding requirements, including legal advertisement thereof, shall have full force and effect until such time as the Owner-Contractor Agreement is executed between the Owner and the Awardee.

§ 1.2.4.2 Where there is a conflict between the Bidding Requirements and the Contract Documents, the Contract Documents shall govern.

§ 1.2.4.3 Where requirements specifically set forth in the Form of Agreement are in conflict with other Contract documents, the Form of Agreement shall govern.

§ 1.2.4.4 Where there is a conflict between the requirements of the General Conditions of the Contract and the Supplementary Conditions, the requirements of the Supplementary Conditions shall govern, except where the requirements set forth in the Supplementary Conditions are contrary to law, in which case the legal requirements shall govern. The General Conditions of the Contract shall take precedence over other Contract Documents except for the Form of Agreement.

§ 1.2.4.6 When a duplication of material or equipment occurs in the Drawings or the Specifications by assignment of Work to separate prime contracts, each Prime Contractor shall be deemed to have bid on the basis of each furnishing such material or equipment. The Owner will decide which Contractor (s) shall furnish the same and which contract amount shall be adjusted for not incorporating such material or equipment into the Project.

§ 1.2.4.7 In case of an inconsistency between the Specification Reference Standard and the Drawings, the Manufacturer shown in the Drawings prevail as the Reference Standard.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory, and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and material and equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material and equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

(Paragraphs deleted)

§ 1.5.3 All documents, records, programs, applications, data, algorithms, film, tape, articles, memoranda, and other materials (the "Materials") not developed or licensed by the Contractor prior to execution of this Contract, but specifically developed under this Contract shall be considered "work for hire" and the Contractor hereby transfers and assigns any ownership claims to the Owner so that all Materials will be the property of the Owner. If ownership interest in the Materials cannot be assigned to the Owner, the Contractor grants the Owner a non-exclusive, non-cancelable, perpetual, world-wide royalty free license to use the Materials and to use, modify, copy and create derivative works of the Materials.

§ 1.6 Transmission of Data in Digital Form

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Article 4, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 Contractor acknowledges that this project is a public works project and public contest, and therefore a mechanic's lien may not be filed against the Owner, its land, property, buildings or in any way under Indiana law.

§ 2.2 Information and Services Required of the Owner

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. Thereafter the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the portion of the Work affected by a Material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the contractor.

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements,

assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities. Unless otherwise provided under the Contract Documents, the Owner, through the Architect, shall not secure or pay for the building permit.

§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

(Paragraphs deleted)

§ 2.2.5 The Owner shall not be required to furnish to the Contractor a copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.2.6 The Owner shall endeavor to forward all communications to the Contractor and shall contemporaneously provide the same communication to the Architect about matters arising out of or relating to the Contract Documents.

§ 2.3 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.4 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate change order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's and their respective consultants' additional services made necessary by such default, neglect, or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The plural term "Multiple Prime Contractors" refers to the persons or entities who perform Construction under contracts with the Owner that are administered by the Architect. The term does not include the Owner's own forces, including persons or entities under separate contracts not administered by the Architect.

§ 3.1.3 The Contractor shall perform the work in accordance with the Contract Documents.

§ 3.1.4 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.2.5 Where there is a conflict in or between the Drawings and Specifications, the Contractor shall be deemed to have estimated on the more expensive way of performing the work, and the larger quantity required. Only changes or interpretations covered by addenda or written amendments created by the Architect and signed by the Owner will be permitted during construction of the Work.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instruction concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect, and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences, or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of the Project already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, supplies, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of government officials and the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.2.1 By making a request for substitution, the Contractor:

1. Represents they have personally investigated. The proposed substitution product and determined that it is equal or superior in all aspects.
2. Represents they will be responsible for any failures of the substitution and provide the same warranty for the product substitution that the Contractor is submitting for the same specified time.
3. Certifies the cost, including all related cost, for the presented product substitution is under the awarded Contract price and waives all claims for any additional cost related to the product substitution which may subsequently become apparent and
4. Will coordinate installation of any accepted product substitution and making changes as may be required for the Contracted Work to be completed.
5. Will be responsible for any additional costs of the Architect to redesign or issue modified documents.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them. Any worker or personnel of the Contractor or its Subcontractors whom the Architect or Owner considers to be incompetent, unable to complete the Work, or unfit or detrimental to the Project shall be promptly removed and replaced with a proficient substitute upon notification by the Owner.

§ 3.4.4 The Contractor shall utilize trained, experienced, proficient engineers, personnel, laborers, and supervisors, who shall coordinate general, mechanical, and electrical Work and crafts with the required construction progress. The contractor shall exercise complete control over his Subcontractor(s) in a manner which will unite their efforts toward timely completion of the Work as contracted.

§ 3.4.5 The Contractor shall continuously comply with OSHA, maintain adequate safety measures and protection for all his Work and the Work of Subcontractors from damage, and shall indemnify and hold harmless the Owner, and Architect from injury or loss arising in connection with performance under his contract, including attorney fees and legal costs. He shall promptly remedy and make good any damage, injury, or loss, except as caused directly due to errors in the Contract Documents or caused by agents or employees of the Owner.

§ 3.4.6 The Architect shall help coordinate and expedite the Work of all Contractors for all portions of the Work under their separate Agreements with the Owner.

§ 3.4.7 All Contractors or Subcontractors who are signatory to any union or labor agreement shall observe all established Department of Labor and union rules and regulations. And any federal, State, and local laws and regulations, and shall cooperate with the labor union officials toward elimination and/or settlement of all labor disputes, in order to insure a timely completion and uninterrupted rate of progress in the Work.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform with the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or

equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 The Contractor shall warrant all Work will be free from defects of materials and workmanship for the period of two (2) years from the date of substantial completion or within such longer period of time as may be prescribed by law the manufacturer's warranty, or by the terms of any applicable special warranty required by the Contract Documents. The Contractor further agrees that he will, at his own expense, promptly and diligently repair and replace all such defective Work, and all other Work damaged thereby, which becomes defective during the term of the warranty period. Contractor shall also secure said warranties in writing from Subcontractors, manufacturers and/or material suppliers addressed to and in favor of the Owner and deliver same to the Owner upon completion of Work. Delivery of said warranties shall not relieve the Contractor from any obligations assumed under any other provisions of the Contract.

§ 3.5.3 Any damage to the building or its contents and/or Work of other Contractors caused by failure of any piece of equipment, material, supply, and/or faulty installations shall be promptly repaired or replaced by the party or parties furnishing the original installation and paid for by the contractor at fault.

§ 3.5.4 An inspection of the completed Work and/or installed equipment will be made just prior to the end of the stipulated warranty period and any installations and/or equipment which, in the opinion of the Architect and/or Owner, show undue wear, failure, incorrect operation, or otherwise do not conform to construction standards, applicable laws, or the letter and intent of the Contract Documents shall be promptly repaired or replaced by the Contractor at no additional charge.

§ 3.6 Taxes

§ 3.6.1 Taxes which the Contractor must which are legally enacted at or after the time bids are received, whether or not effective, shall be paid by the Contractor.

§ 3.6.2 Indiana Gross Retail tax: materials, supplies, and equipment purchased for this project which becomes a permanent part of the structure or facilities constructed are not subject to Indiana Gross Retail Tax. A general exemption certificate must be submitted to the vendor by the contractor for exemption from payment of the tax. The Owner shall furnish and Exemption Certificate upon written request through the Owner.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit. The Contractor shall secure and pay for all other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment in the Contract Sum or Contract

Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either the Owner or Contractor disputes the Architect's determination or recommendation, either party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor shall give his Work adequate personal supervision. He shall keep a proficient superintendent constantly on the site from the commencement of his Work until the completion thereof, irrespective of his foreman, or the foremen employed by any Subcontractor. All such representatives must be satisfactory. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project schedule to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the work. The contractor shall cooperate with the Owner in scheduling and performing the Contractor's

Work to avoid conflict with, and as to cause no delay in, the work or activities of other multiple prime contractors or the construction or operations of the Owner's own forces.

§ 3.10.2 The Contractor shall prepare a submittal schedule promptly after being awarded the Contract and thereafter update it as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall participate with other contractors, the Architect, and Owner in reviewing and coordinating all schedules for incorporation into the Project Schedule that is prepared by the Owner. The contractor shall make revisions to the construction schedule and submittal schedule as deemed necessary by the Owner to conform to the Project Schedule.

§ 3.10.4 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect and incorporated into the approved Project Schedule.

§ 3.11 Documents and Samples at the Site

The Contractor shall maintain, at the site, for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples, and similar required submittals. These documents shall be available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Sections 4.2.9 through 4.2.11. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the project submittal schedule approved by the Architect or, in the absence of an approved project submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of other multiple Prime Contractors or the Owner's own forces. The Contractor shall cooperate with the Owner in the coordination of the Contractor's shop drawings, product data, samples, and similar submittals with related documents submitted by other multiple prime contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and

coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been reviewed and approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

(Paragraphs deleted)

§ 3.12.11 The Contractor shall submit to Owner and Architect for review and approval Shop Drawings, Product data, and samples so as not to delay the Work for the Project. The Contractor shall take into account the time required for the review and resubmission of Shop Drawings, Product Data, and Samples.

§ 3.13 Use of Site

§ 3.13.1 The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.13.2 The Contractor shall coordinate the Contractor's operations with and secure the approval of the Owner before using any portion of the site.

§ 3.13.3 The Contractor shall abide by the rules of the Owner regarding the use of the site and confine their activities to areas designated on the Contract Documents or by the Owner.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, and patching shall be restored to the condition existing prior to the cutting, fitting, and patching, unless otherwise required by the Contract Documents. Patching,

whether occasioned by existing Work removal or by ill-timed and/or damaged new Work shall mean the restoration of a surface or item to its original condition to match the existing, unless otherwise indicated, noted, detailed, or specified. Cutting and patching shall be done by the proper trade(s) or craft(s) necessary for the material involves painting, special coating, fabric coverings or other applied finish, the entire surface affected (i.e. wall or ceiling) shall be refinished as part of this requirement, unless complete refinishing of the entire space is scheduled or specified elsewhere in the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner's own forces or of other Multiple Prime Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner's own forces or by other Multiple Prime Contractors except with written consent of the Owner and such other Multiple Prime Contractors; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the other Multiple Prime Contractors or the Owner the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Owner's land and buildings near or adjacent to the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights, trademarks, trade secrets, patents and other intellectual property rights and shall indemnify and hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of any intellectual property rights, the Contractor, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), caused in whole or part by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.1.1 The Contractor is solely responsible for all citations, fines and penalties arising out of, or resulting from the performance of the Work under his contract.

§ 3.18.1.2 The Contractor shall indemnify and hold harmless the Owner, Architect, and their agents and employees from and against all claims, damages, losses and expenses, including attorney's fees, arising out of such Occupational Safety and Health Act violations and other applicable ordinances, rules and regulations outlined applicable laws.

§ 3.18.1.3 The Contractor shall indemnify and hold harmless the Owner and Architect for any claim, demand or expense which may be made by reason of:

§ 3.18.1.3.1 Any injury to person or property sustained by the Owner or by any person, organization, corporation, or entity, if caused by contractor.

§ 3.18.1.3.2 Any injury to person or property sustained by any person, organization, corporation, or entity caused by an act or omission of the Contractor or of any person, organization, corporation, or entity directly or indirectly employed by him in connection with this Work, whether the said injury or damage occurs upon or adjacent to the Work.

§ 3.18.1.3.3 Any and all actions, suits, or other legal proceedings that may be brought or instituted against the Owner and Architect, or any such other claim or demand and pay or satisfy any judgment that may be rendered against the Owner or Architect in any such action, suit, or proceedings.

§ 3.18.2 In claims against any person or entity indemnified under this Section- 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section- 3.18 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Architect and Contractor. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor construction manager or architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the construction manager or Architect, respectively.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be the Owner's representatives during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. The Architect will be required to make on-site inspections to check the quality or quantity of the Work. On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent Project schedule prepared by the Owner, and (2) defects and deficiencies observed in the Work.

§ 4.2.3 The Architect shall provide a staffing plan to include one or more representatives who shall be in attendance at the Project site whenever the Work is being performed. The Architect will determine in general if the Work observed is being performed in accordance with the Contract Documents, will keep the Owner reasonably informed of the progress of the Work, and will report to the Owner and Architect (1) known deviations from the Contract Documents and the most recent Project schedule, and (2) defects and deficiencies observed in the Work.

§ 4.2.4 The Architect will schedule and coordinate the activities of the Contractor and other Multiple Prime Contracts in accordance with the latest approved Project schedule.

§ 4.2.5 The Architect except to the extent required by the Contract Documents, will not have control over, or charge of construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1. The Architect will not have control over or charge of or be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons or entities performing portions of the Work.

§ 4.2.6 Communications

Facilitating Contract Administration. Except as otherwise provided in the Contract Documents or when direct communications have been specifically authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect, and shall contemporaneously provide the same communication to the architect about matters arising out of or relating to the Contract Documents. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with other Multiple Prime Contractors shall be through the Architect and shall be contemporaneously provided to the Architect if those communications are about matter arising out of or related to the Contract Documents. Communications by and with the Owner's own forces shall be through the Owner. .

§ 4.2.7 The Architect will review and certify all Applications for Payment by the Contractor in accordance with the provision of Article 9.

§ 4.2.8 The Owner and Architect will have authority to reject Work that does not conform to the Contract Documents and will notify each other about the rejection. The Architect shall determine in general whether the Work of the Contractor is being performed in accordance with the requirements of the Contract Documents and notify the Owner and Contractor of defects and deficiencies in the Work. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require additional inspection or testing of the Work in accordance with Sections 13.45.2 and 13.45.3, upon written authorization of the Owner, whether or not such Work is fabricated, installed or completed. The foregoing authority will be subject to the provisions of Sections 4.2.18 through 4.2.20 inclusive, with respect to interpretations and decisions of the Architect. However, the Architect's authority to act under this Section 4.2.8 nor a decision made by either of them in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons performing any of the Work.

§ 4.2.9 The Architect will receive and promptly review for conformance with the submittal requirements of the Contract Documents, all submittals from the Contractor such as Shop Drawings, Product Data and Samples, where there are Multiple Prime Contractors, the Architect will also check and coordinate the information contained within each submittal received from Contractor and other Multiple Prime Contractors, and transmit to the Architect those recommended for approval. By submitting Shop Drawings, Product Data, Samples and similar submittals, the Architect represents to the Owner it has reviewed and recommended them for approval. The Architect's actions will be taken in accordance with the Project submittal schedule approved by the Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness while allowing sufficient time to permit adequate review by the Architect.

§ 4.2.10 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Upon the Architect's completed review, the Architect shall transmit its submittal review to the Owner.

§ 4.2.11 Review of the Contractor's submittals by the Architect is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.12 The Architect will prepare Change Orders and Construction Change Directives,

§ 4.2.13 The Architect will take appropriate action on Change Orders or Construction Change Directives in accordance with Article 7 and the Architect will have authority to order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section- 3.7.4.

§ 4.2.14 Utilizing the documents provided by the Contractor, the Architect will maintain at the site for the Owner one copy of all Contract Documents, approved Shop Drawings, Product Data, Samples and similar required submittals, in good order and marked currently to record all changes and selections made during construction. These will be available to the Contractor and will be delivered to the Owner upon completion of the Project.

§ 4.2.15 The Architect will assist the Owner in conducting inspections to determine the dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion in conjunction with the Architect pursuant to Section 9.8; and receive and forward to the Owner, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10. The Architect will forward to the Owner a final Application and Certificate for Payment or final Project Application and Project Certificate for Payment upon the Contractor's Compliance with the requirements of the Contract Documents.

§ 4.2.16 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.17 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.18 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions so rendered in good faith.

§ 4.2.19 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.20 The Architect will receive and review requests for information from the contractor, and forward each request for information to the Owner, with the Architect's recommendation. The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to each request will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include other Multiple Prime Contractors or subcontractors of Multiple Prime Contractors.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Architect for review by the Owner and Architect the names of persons or entities including those who are to furnish materials or equipment fabricated to a special design. Proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in

writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect or Owner requires additional time for review. Failure of the Owner or Architect to reply within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, supply vendor, person, or entity previously selected unless Contractor provides a written justification for said change to the Owner and the Owner approves such change. The Owner, by written notice may require the Contractor to change a Subcontractor, supplier, vendor, person, or entity previously approved, and, if at such time the Contractor is not in default under this Agreement, the Contract Sum shall, with the Owner's written consent be adjusted by the difference in cost resulting from the change.

§ 5.3 Subcontractual Relations

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.3.1 The Contractor shall pay all of its Subcontractors, suppliers, vendors, and lessors, within ten (10) days of the receipt of any payment authorized by the Owner, out of the amount paid to the Contractor on account of such Subcontractor, supplier, vendor, or lessors work, the amount to which said Subcontractor, supplier, vendor, or lessor is entitled including escrowed principal and income, if any, reflecting the percentage actually retained, if any, from payments made to the Contractor on account of such Subcontractor's, supplier's, vendor's, or lessor's work. The Contractor shall, by an appropriate agreement with subcontractors require each subcontractor to make payments to his sub-subcontractors, suppliers, vendors, and lessors in similar manner.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor Contractor or other entity. If the Owner assigns the subcontract to a successor Contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor Contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction with Own Forces and to Award Other Contracts

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, which include persons or entities under separate contracts not administered by the Architect and to award other contracts in connection with other portions of the Project or other construction or operations on the site retained under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When the Owner performs construction or operations with the Owner's own forces including persons or entities under separate contracts not administered by the Architect, the Owner shall provide for coordination such forces with the Work of the Contractor, who shall cooperate with them.

§ 6.1.3 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

(Paragraph deleted)

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner's own forces and other Multiple Prime Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner's own forces or Multiple Prime Contractors, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's own forces or Multiple Prime Contractors' completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs, including costs that are payable to a separate contractor or to other Multiple Prime Contractors because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of delays, improperly timed activities, damage to the Work or defective construction by the Owner's own forces or other Multiple Prime Contractors.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner, separate contractors, or Multiple Prime Contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and other Multiple Prime Contractors shall have the same responsibilities for cutting and patching as are prescribed for the Contractor in Section 3.14.

§ 6.2.6 Should the Contractor wrongfully delay or cause damage to the Work or property of any other contractor, the Contractor shall, upon due notice, promptly attempt to settle with such other contractor by agreement or otherwise resolve the dispute with the other contractor. If such other contractor initiates legal proceedings against the Owner on

account of any delay or damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor who shall indemnify and hold harmless Owner in such proceedings, at the Contractor's expense, and if any judgment or award against the Owner arises therefrom, the Contractor shall immediately pay or satisfy it and shall reimburse the Owner for all expenses, attorney's fees, and court costs which the Owner has incurred.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Multiple Prime Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect, will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Architect and Contractor a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

(Paragraphs deleted)

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.47.

§ 7.3.4 If

(Paragraphs deleted)

unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner of Contractor, the applicable unit prices shall be equitable adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of and increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, cost for the purposes of this Section 7.3.7 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement of custom, and workers compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 Additional costs of supervision and field office personnel directly attributable to the change.
- .6 Wages of the project manager or estimator stationed in the field or home office, or any other home office overhead will not be considered as costs attributed to a change.
- .7 Labor costs for all changes shall be determined per subparagraph 3.4.7. A schedule of wages to be used for labor charges on change orders shall be submitted to the Architect before work begins. The Owner reserves the right to review payroll records to determine actual rates of pay for persons involved in changes.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect has authority to order minor changes in the Work involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such will be effected by written order issued through Owner and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.2.4 Each prime Contractor, subcontractor, vendor, supplier, and/or material company shall furnish sufficient labor forces, construction supplies, materials, tools, and equipment, temporarily heat, enclosures, etc., required for their work and protection unless specified elsewhere, and shall work such hours, including night shifts and overtime operations as may be necessary to insure the completion of the Work in accordance with the approved current progress schedule. If, in the opinion of the Architect, the Contractor falls behind the progress schedule, the Contractor shall take such steps as may be necessary to improve his progress and the Architect may, but is not required to, require him to increase the number of shifts, and/or overtime operations, days of work, and/or the amount of construction supplies, materials, tools, or equipment, all without additional cost to the Owner. Failure of the Contractor to comply with the requirements of the Architect under this provision shall be grounds for determination by the Architect that the Contractor is not prosecuting the work with such diligence as will insure completion within the time specified. Upon such determination, the Owner shall have the right, without limiting any other right he may have, to either reduce or suspend progress payments or to terminate the Contractor's right to proceed with the Work any separable part thereof.

§ 8.2.5 Timely performance is an expressed condition of the Contract Documents and any delay in the Contractor's performance may excuse the Owner from his obligation to perform and is a default under the Contract Documents. Failure to abide by the time condition will be treated as a breach by Contractor.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is significantly delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner, Owner's own forces, Architect, any of the Multiple Prime Contractors or an employee of any of them, or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration, or by other causes that the Architect, based on the recommendation of the Owner, determines, may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.1.1 The Contractor shall not be allowed to claim weather delays for those days in the U.S. Weather Bureau reports as the average number of days per month of inclement weather for the closest reporting station to Indianapolis, IN (latest available information). The Contractor shall take this number of days and the Project Schedule into account when preparing his Bid. Historical data for all area may be obtained from NOAA and;

National Climatic Center
151 Patton Ave., Room 120

§ 8.3.1.2 Inclement weather shall be defined as rain, snow, sleet, hail, ice, mud, or other forms of precipitation that prohibits/halts the ability of the Contractor to make meaningful progress. If the work has progressed to the point for the effect of normal inclement weather. The Contractor shall make provisions to overcome the effect of inclement weather. The Architect will only approve weather delays which affect the critical path.

§ 8.3.1.3 The Contractor shall consider and include in his Bid sufficient monies to cover the required manpower, equipment, protection, etc., to complete the Work in accordance with the Project Schedule accounting for inclement weather. It is the Contractor's obligation to provide a copy of the 'National Climatic Center' report with any weather delay claim filed. This includes the current information as well as the monthly averages available at the time of bidding.

§ 8.3.1.4 Neither the Contractor nor any subcontractor shall be due any additional compensation for a weather delay extension. The Contractor may receive additional days only to the Project Schedule.

§ 8.3.2 The Contractor agrees that whether or not any delay shall be the basis for a modification of time, he shall have no claim against the Owner or Architect for an increase in the contract price, nor a claim against the Owner, Architect for a payment or allowance of any kind for damage, loss, cost, or expense resulting from delays, or acceleration, or any other modification of schedule; nor shall the Contractor have any claim for damage, loss, cost, or expense resulting from interruptions to or suspension of his work to enable other Contractors to perform their work. The only remedy available to the Contractor shall be a modification of time in the Project Schedule.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

§ 8.3.4 In the event the Contractor is deemed by the Architect as unable to meet the Project Construction Schedule through no fault of his own, but because of the failure of any of the Contractor's suppliers and/or subcontractors to timely deliver material, equipment, and labor for the project, the Contractor agrees that the Architect shall be authorized, on behalf of the Contractor to deal directly with such delinquent suppliers and/or subcontractors. The Contractor shall take such actions as the Architect shall request to assist the Architect in dealing with such delinquent suppliers and/or subcontractors in such manner as the Architect shall deem necessary for the completion of the project, which may include, but shall not be limited to, the termination of such delinquent suppliers and/or subcontractors and the issuance of replacement orders to the other suppliers chosen by the Architect on behalf of the Contractor. Regardless, no additional cost will be passed on to the Owner. Any expediting measures carried out by the Architect does not relieve the Contractor of his obligations.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

(Paragraphs deleted)

§ 9.2 Schedule of Values

Where the Contract is based on a Stipulated Sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. In the event there is one Contractor, the Architect shall forward to the Owner the Contractor's schedule of values. If there are Multiple Prime Contractors responsible for performing different portions of the Project, the Architect shall forward the Multiple Prime Contractors' schedules of values only if requested by Owner.

§ 9.3 Applications for Payment

§ 9.3.1 At least twenty five (25) days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values,

under Section 9.2, for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site for such materials and equipment stored off the site.

§ 9.3.2.1 Payment request for materials and equipment suitably stored at the site must be accompanied by invoices from the supplier detailing items purchased, the quantities and the value.

§ 9.3.2.2 Payments to the Contractor for materials and equipment stored off site is discouraged. Where circumstances indicate that the Owner's best interest is served by offsite storage, the Contractor shall make written request to the Architect at least thirty (30) days prior to the date of the next application for payment. The Contractor's request shall include the following information:

- .1 A list of material or equipment consigned to the project (which shall be clearly identified), giving the place of storage, together with copies of invoices and reasons why the materials or equipment cannot be delivered to the site.
- .2 Certification that all items have been tagged for delivery to the project and that they will not be used for any other purpose.
- .3 Evidence of adequate insurance covering the material in storage which is not covered by or exceeds the limits of the Owner's Builder's Risk policy. The Owner shall be included as a loss payee as respects their property while it is being temporarily stored at the storage location noted on the insurance certificate.
- .4 Any cost incurred by the Architect to inspect the material or equipment in offsite storage shall be paid by the Contractor.
- .5 When partial payment is allowed on account of material delivered on the site or stored offsite, but not yet incorporated therein, such material shall become the property of the Owner. If such material is stolen, destroyed or damaged by casualty before being used, the Contractor will be required to replace it at his own expense.
- .6 The Contractor shall include with each monthly pay request, until such time the offsite stored material is either suitably stored on site or incorporated in the work, a letter stating per the paragraphs set forth below, that all offsite stored material and equipment for which payment is requested is, in fact, paid for by the Contractor and becomes the property of the Owner.

(Company Name) certifies that all stored materials or equipment included in the Application for Payment are free and clear of all liens, claims, security interests or encumbrances and that no work, materials or equipment covered hereby is subject to any retained interest by any other person.

Title to all work, material and equipment covered by this Application for Payment which has not hereto before passed to the Owner is hereby conveyed and transferred to the Owner effective upon payment of this Application for Payment.

§ 9.3.3 The Contractor warrants that title, rights, and ownership to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials, and equipment relating to the Work.

§ 9.3.4 The Owner may retain, until the Work is at least fifty percent (50%) complete, ten percent (10%) of the amount due the Contractor on account of approved progress payments. At the time the Work is at least fifty percent (50%) complete or thereafter, if the manner of completion of the Work and its progress are and remain satisfactory to the Owner and Architect, and in the absence of the other good and sufficient reasons, the Architect will upon presentation by the Contractor of Consent of Surety recommend to the Owner that any remaining approved partial payments be paid in full. Regardless of the Owner's decision relative to further retainage, all prior retainages that were withheld will be held until completion of the Work and all remedial Work, listed as conditions of substantial completion, and following final payment. If retainage is limited to (10%) of the first (50%) of the contract amount, as described above, five (5) percent will be withheld from payments for all subsequent change orders: therefor, the minimum retainage shall be five (5) percent of the current contract amount.

§ 9.3.4.1 The Owner may elect to retain 5% throughout, however if the Contractor's performance becomes unsatisfactory, the Owner may retain the full 10% until such time that the Contractor's performance is deemed to be satisfactory to the Owner.

§ 9.3.5 Retainage shall be withheld pursuant to Indiana law.

§ 9.4 Certificates for Payment

§ 9.4.1 Where there is only one Contractor, the Architect will, within ten (10) business days after the Architect's receipt of the Contractor's Application for Payment, review the Application and certify the amount the Architect determines is due the Contractor, and forward the Contractor's Application and Certificate for Payment to the Owner. Within seven days after the Architect receives the Contractor's Application for Payment, the Architect will either issue to the Owner a Certificate for Payment with a copy to the Owner for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5. The Architect will promptly forward to the Contractor the Architect's notice of withholding certification.

§ 9.4.2 Where there are Multiple Prime Contractors performing portions of the Project, the Architect will, within ten (10) business days after the Architect receives the Multiple Prime Contractors' Applications for Payments: (1) review the Applications and certify the amount the Architect determines is due each of the Multiple Prime Contractors; (2) prepare a Summary of Contractor's Applications for Payments by combining information from each Multiple Prime Contractors' application with information from similar applications for progress payments from other Multiple Prime Contractors; (3) prepare a Project Application and Certificate for Payment; (4) certify the amount the Architect determines is due all Multiple Prime Contractors; and (5) forward the Summary of Contractors' Applications for Payment and Project Application and Certificate for Payment to the Architect.

§ 9.4.3 Within seven days after the Architect receives the Project Application and Project Certificate for Payment and the Summary of Contractor's Application for Payment, the Architect will either issue to the Owner and Project Certificate for Payment for such amount as the Architect determines is properly due, or notify the Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1. The Architect will promptly forward the Architect's notice of withholding certification to the Contractors.

§ 9.4.4 The Architect's certification of an Application for Payment or, in the case of Multiple Prime Contractors, a Project Application and Certificate for Payment shall be based upon the Architect's evaluation of the Work and the information provided as part of the Application for Payment. The Architect's certification will constitute a

representation that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and the quality of the Work is in accordance with the Contract Document. The certification will also constitute a recommendation by the Architect to the Owner that the Contractor be paid the amount certified.

§ 9.4.5 The Architect's issuance of a Certificate for Payment or in the case of Multiple Prime Contractors, Project Application and Certificate for Payment, shall be based upon the Architect's evaluations of the Work, the recommendation of the Owner, and information provided as part of the Application for Payment or Project Application for Payment. The Architect's certification will constitute a representation that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated, that the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified.

§ 9.4.6 The representations made pursuant to Sections 9.4.4 and 9.4.5 are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect.

§ 9.4.7 Issuance of a separate Certificate for Payment or a Project Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed the Contractor's construction means, methods, techniques, sequences, or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment or Project Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.4 and 9.4.5 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1 and 9.4.3. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment or a Project Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a Certificate for Payment or Project Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from the acts and omissions described in Section 3.3.2 because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.
- .8 Failure to provide sufficient skilled workers; providing equipment, supplies, or materials which are defective or otherwise do not conform to the Contract Documents or applicable laws; failure to conform to the Project Schedule; or failure to follow directions of the Architect.
- .9 The Work has not proceeded as set forth in the Application for Payment or Contract Documents.
- .10 The failure of the Contractor to complete submittals in accordance with the Contract Documents.
- .11 The failure of the Contractor to submit Close-Out documents in a timely manner.

§ 9.5.2 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the

Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect which will reflect such payment on the next Certificate for Payment.

(Paragraph deleted)

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

(Paragraph deleted)

§ 9.7 Failure of Payment

If the Architect do not issue a Certificate for Payment or a Project Certificate for Payment, through no fault of the Contractor, within fourteen days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the list, which is not sufficiently complete in accordance with the requirements of the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Architect determines that the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Sections 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall jointly prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Architect a written notice that the Work is ready for final inspection and acceptance and shall also forward to the Architect a final Contractor's Application for Payment. Upon receipt, the Architect will evaluate the completion of Work of the Contractor and then forward the notice and Application, with the recommendations, to the Owner who will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment, or Project Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment or Project Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract

Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner and (6) the Architect has received the required record drawings, brochures, manuals, operating instructions, warranties, affidavits, final application for payment, any other special data requirements and has performed a final inspection and confirmed that all items of completion are correct and acceptable at which time he will initiate a 'Final Completion' letter establishing the date of Final Completion. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or a material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall submit the Contractor's safety program to the Architect for review and coordination with the safety programs of other Contractors. The Architect's responsibilities for review and coordination of safety programs shall not extend to direct control over or charge of the acts or omissions of the Contractors, Subcontractors, agents or employees of the Contractors or Subcontractors, or any other persons performing portions of the Work and not directly employed by Architect. In event of conflict the between these Contract Documents and any industry, federal, state or local laws, rules, regulation, or requirements, the most stringent requirement shall govern the Work.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractor;
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction; and
- .4 construction or operations by the Owner or other Contractors,
- .5 excavated banks, trenches, and/or the building from damage from rainwater, spring water, groundwater, backing up of drains of sewer and all other water admitted to the work by his operation.

Contractor shall provide all pumps and other equipment and enclosures to provide this protection. In the case of any work involving a trench greater than five feet in depth, federal (e.g. IOSHA 29 C.F.R.-1923 Subpart P) and state (e.g. Ind. Code § 5-16-1-6) standards shall prevail.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall first supply Owner notice and then exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.5.1 The Contractor shall be responsible for all safety precautions and requirements arising out of its work. Any penalties or fines assessed as a result of the Contractor's non-compliance with local, state or federal safety regulation shall be the sole responsibility of the Contractor. The Contractor shall indemnify and hold harmless the Owner and Architect, for any fine, penalty, claim or demand including attorney fees incurred which arises out of an actual claimed safety related violation or hazard arising out of its Work.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to, asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify a presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to

perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not any of them has reasonable objection to the persons or entities proposed by the Owner. If the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resumed upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner may in its discretion indemnify and hold harmless the Contractor, Subcontractors, Architect, their consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner may in its discretion reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

§ 10.4.1 The Contractor warrants to the Owner that no materials containing either asbestos or polychlorinated biphenyl (PCB) will be permitted or used for this Project. Each Contractor shall furnish a sworn affidavit to the Owner, stating that materials used under this Contract did not contain asbestos or polychlorinated biphenyl (PCB) upon Substantial Completion of the Work.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is Located and which are acceptable to the Owner such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable;

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;

- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Work itself because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle; and
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.
- .9 Liability insurance shall include all major divisions of coverage and be on a comprehensive basis including:
 - (1) Premises Operations (including X, C, and U coverages as applicable).
 - (2) Independent Contractors' Protection.
 - (3) Products and Completed Operations.
 - (4) Personal Injury Liability with Employment deleted.
 - (5) Contractual, including specified provision for the Contractor's obligations under Paragraph 3.18.
 - (6) Owned, non-owned, rented, leased, and hired motor vehicles
 - (7) Broad Form Property Damage including Completed Operations
- .10 If the General Liability coverages are provided by a Commercial General Liability Policy on a claims made basis, the Policy date or Retroactive Date shall predate the Contract; the termination date of the policy or applicable extended reporting period shall be no earlier than the termination date of coverages required to be maintained after final payment, certified in accordance with Subparagraph 9.10.2.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement off the Work until the date of final payment and termination of any coverage required to be maintained after final payment and, with respect to the Contractor's completed operations coverage until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.2.1 Prior to the commencement of any Work and prior to the performance of any service, the Contractor shall procure and pay for the following insurance coverage, and the Contractor shall maintain coverage in force after his Work in completed and accepted for final payment and throughout the warranty period. The insurance required by Subparagraph 11.1.1 shall be written for not less than the following limits, or greater if required by law. The insurers and policies shall be subject to the Owner's approval.

- 1. Workmen's Compensation
 - a. State Statutory
 - b. Applicable Federal (e.g., Longshoremen's): Statutory
 - c. Employer's Liability

Bodily Injury by Accident: \$1,000,000 per Accident
 \$1,000,000 policy limit
 Bodily Injury by Disease; \$1,000,000 each employee

Waiver of Subrogation in favor of Additional Insured

- 2. Comprehensive or Commercial General Liability (including Premises-Operations; Independent Contractor's Protective; Products and Completed Operations; Broad Form Property Damage):
 - a. Combined Bodily Injury & Property Damage limit of at least \$1,000,000 per occurrence, \$2,000,000 Products and Completed Operations aggregate and \$2,000,000 General Aggregate.

- b. Products and Completed Operations to be maintained for 6 years after final payment: \$2,000,000 Aggregate
 - c. Property Damage Liability Insurance shall provide X, C, and U coverage.
 - d. Broad Form Property Damage Coverage shall include Completed Operations.
 - e. Additional Insured CG2010 10/01 CG2037 10/01 or its equivalent in favor of Additional Insured
 - f. Primary & Non-Contributory
 - g. Waiver of Subrogation in favor of Additional Insured
 - h. Designated Construction Project(s) General Aggregate
- 3. Contractual Liability: Included
 - 4. Fire Damage: \$50,000 any one fire, limit
 - 5. Medical Expense: \$5,000 any one person, limit
 - 6. Personal Injury, with Employment Exclusion deleted: \$1,000,000 Aggregate
 - 7. Business Auto Liability (including owned, non-owned and hired vehicles)
 - a. Bodily Injury & Property Damage CSL \$1,000,000
 - 8. Umbrella Excess Liability:
 - a. \$5,000,000 each occurrence over primary insurance
 - b. \$5,000,000 general aggregate over primary insurance
 - c. \$5,000,000 products and completed operations aggregate over primary insurance

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be submitted to the Architect for transmittal to the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by the Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least sixty (60) days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. The form of the certificate shall be Accord 25S, Certificate of Insurance. Contractor shall furnish promptly to the Owner copies of any endorsement that are subsequently issued amending coverage or limits. Certificates of Insurance shall name the Owner and Architect as Additional Insureds.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect, and the Architect's consultants as additional insureds for the claims cause in whole or in part by the contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

(Paragraphs deleted)

§ 11.1.5 The Contractor, in connection with the above mentioned Workmen's Compensation and Occupational Disease Insurance, shall furnish to the Owner, prior to commencement of the Work, fully executed and validated forms as prescribed by the Indiana agencies showing that such insurance is in full force and effect.

§ 11.2 Owner's Liability Insurance

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 Property Insurance

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all risk" or equivalent policy form in the amount of the initial Contract Sum plus value of subsequent Contract modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless

otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the project.

§ 11.3.1.1 Property insurance shall be on an "all risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for the Architect's and Contractor's services and expenses required as a result of such insured loss. Such Insurance shall not insure against loss due to theft of Contractor's, Subcontractor's, Sub-subcontractor's tools, equipment, and other personal property. The responsibility to guard against such thefts shall lie with the respective Contractor, Subcontractor, or Sub-subcontractor whose tools, equipment and other personal property are susceptible to such thefts.

Contractor deductible:

\$2,500 deductible per occurrence, except flood and earthquake

\$25,000 deductible for loss resulting from flood or earthquake

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance, as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 The Contractor shall be responsible for the deductible per occurrence if the loss is caused in whole or part by contractor or its subcontractors. The Owner shall be responsible for all remaining deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 **Boiler and Machinery Insurance** The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner ; this insurance shall include interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Work, and the Owner and Contractor shall be names insureds.

§ 11.3.3 **Loss of Use Insurance** The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of the Owner's property due to fire or other hazards, however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at adjoining or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

(Paragraphs deleted)

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.3.7 **Waivers of Subrogation.** The Contractor waives all rights against (1) other parties and any of their subcontractors, sub-subcontractors, agents and employees each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractor, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as the Owner and Contractor may have to the proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, Owner's separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Contractor's property insurance shall be adjusted by the Contractor as fiduciary and made payable to the Contractor as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Owner and Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If requested or required in writing by a party in interest, the Contractor as fiduciary shall, not before or upon occurrence of any loss, file bond for proper performance of the Contractor's duties.

§ 11.3.10 The Contractor as fiduciary shall have power to adjust and settle a loss.

§ 11.4 Performance Bond and Payment Bond

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered which the Architect has not specifically requested to observe prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or one of the other Contractors in which event the Owner shall be responsible for payment of such costs.

§ 12.2 Correction of Work

§ 12.2.1 Before or After Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within two (2) years after the date of Substantial Completion of the Work or designated portion thereof, or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the two-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The two-year period shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work. Where special warranties of longer duration are required, the Contractor shall secure warranties from Subcontractors, manufacturers and/or material suppliers as applicable, addressed to and in favor of the Owner, and deliver copies of same to the Owner upon completion of the Work. Delivery of said warranties shall not relieve Contractor of any obligation assumed under any other provisions of the Contract.

§ 12.2.2.3 The two-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors or other Multiple Prime Contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the two-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located which is Indiana.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 Written Notice

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity or to an officer of the corporation for which it was intended; or if delivered at or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

(Paragraphs deleted)

§ 13.4 Rights and Remedies

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law. The Contractor shall bear all cost for inspections, approvals and performance testing as required in the Contract Documents unless otherwise noted.

§ 13.4.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

(Paragraphs deleted)

§ 13.5 Tests and Inspections

§ 13.5.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 Interest

Payments due for completed Work which are not disputed by the Owner and remains unpaid under the Contract Documents shall bear interest no more than the legal rate of one percent (1%).

§ 13.7 Time Limits on Claims

The Owner and the Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and the Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed including reasonable overhead expenses, and costs incurred by reason of such termination and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.
- .5 becomes financially incapable of completing the Work contemplated by the Contract Documents.
- .6 failure of the Contractor to make prompt and full payments to its suppliers, equipment lessors or laborers.
- .7 failure of the Contractor to prosecute the Work in a proper and timely manner.

§ 14.2.2 When any of the above reasons exist, the Owner, after consultation with the Architect, and upon certification by the Initial Decision Maker that sufficient cause exists to justify such action without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall, upon application be certified by the Initial Decision Maker, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and the Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent:

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of this Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

(Paragraphs deleted)

§ 15.1.2 Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and the Architect will issue a Certificate for Payment or Project Certificate for Payment in accordance with the Decisions of the Initial Decision Maker.

(Paragraphs deleted)

§ 15.1.4 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.3.

§ 15.1.5 Claims for Additional Time

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.6 Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

(Paragraphs deleted)

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9 and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 A decision by the Architect shall be required as a condition precedent to litigation of a Claim between the Contractor and the Owner as to all such matters arising prior to the date final payment is due, regardless of (1) whether such matters relate to execution and progress of the Work or (2) the extent to which the Work has been completed provided, with respect to Claims submitted more than two years after final payment is due, the decision by the Architect shall not be a condition precedent to litigation, and the Claim does not need to be submitted to the Architect.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6, shall be subject to mediation as a condition precedent to resolution in any legal proceedings.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

(Paragraph deleted)

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.

§ 16 Miscellaneous

Whatever and whenever any burning, welding, cutting or soldering operation is in progress, or equipment is in use, or any work involving a fire hazard, is performed, the Contractor responsible for such operation shall have at all times acceptable fire extinguisher or protection within five (5) feet of the operation

The Contractor and its employees and subcontractors shall comply with all applicable licensing standards certification standards accrediting standards and any other laws, rules or regulations governing services to be provided by the Contractor pursuant to this Contract. The Owner shall not be required to pay the Contractor for any services performed when the Contractor, its employees or subcontractor are not in compliance with such applicable standards, laws, rules or regulations.

Pursuant to applicable laws, the Contractor shall implement and maintain a suitable employee drug testing program. The Contractor hereby covenants and agrees to conduct criminal background checks on personnel who will be present on Owner's property and will make a good faith effort to provide and maintain a drug-free workplace.

The Contractor and its subcontractors, if any, shall maintain all books, documents, papers, accounting records, and other evidence pertaining to all costs incurred under this Contract. They shall make such materials available at their respective offices at all reasonable times during this Contract, and for three (3) years from the date of final payment

under this Contract, for inspection by the Owner or its authorized designees. Copies shall be furnished at no cost to the Owner if requested.

The Contractor acknowledges that it may be required to submit to an audit of funds paid through this Contract. Any such audit shall be conducted in accordance with Indiana State Board of Accounts rules and audit guidelines specified by the Owner.

The contractor shall comply with all applicable federal, state, and local laws, rules, regulations and ordinances and all provisions required thereby to be included herein are hereby incorporated by reference. The enactment or modification of any applicable state or federal statute or the promulgation of rules or regulations thereunder after execution of this Contract shall be reviewed by the Owner and the Contractor to determine whether the provisions of the Contract require formal modification.

The Contractor certifies by entering into the Contract that neither it nor its principal(s) is presently in arrears in payment of taxes, permit fees or other statutory, regulatory or judicially required payments or reports to a governmental entity within the State of Indiana.

The Contractor warrants it has no current, pending or outstanding criminal, civil or enforcement actions initiated by a governmental entity within the State of Indiana, and agrees it will immediately notify the Owner of any such actions.

The Contractor and any principals of the Contractor certify it has and will comply with Ind. Code § 5-22-3-7.

The Contractor understands and agrees data, materials and information disclosed to the Contractor may contain confidential and protected information. The Contractor covenants data, material and information gathered based upon or disclosed to the contractor for the purpose of this Contract will not be disclosed to or discussed with third parties without the prior written consent of the Owner.

The Contractor certifies by entering into this Contract that neither it nor its principals nor any of its subcontractors are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from entering into this Contract by any federal agency or by any department, agency or political subdivision of the State of Indiana.

The Contractor swears or affirms under the penalties of perjury the Contractor does not knowingly employ an unauthorized alien and complies with Ind. Code § 22-5-1.7.

When financial officer of the Owner makes a written determination that funds are not appropriated or otherwise available to support continuation of performance of this Contract, the Contract shall be canceled. A determination by the financial officer of the Owner that funds are not appropriated or otherwise available to support continuation of performance shall be final and conclusive.

The Contractor is performing as an independent entity under this Contract. No part of this Contract shall be construed to represent the creation of an employment, agency, partnership, association, affiliation or joint venture agreement between the parties. Owner will not assume liability for any injury including death to any persons or damage to any property arising out of the acts or omissions of the agent, employees or subcontractors of the Contractor. The Contractor shall provide all necessary unemployment and workers' compensation insurance for the Contractor's employees.

Pursuant to the Indiana civil Rights Law, federal Civil Rights Act, ADEA, and ADA, the Contractor covenants that it shall not discriminate against any employee or applicant for employment relating to this Contract with respect to the hire, tenure, terms, conditions or privileges of employment or any matter directly or indirectly related to employment, because of the employee's or applicant's race, color, national origin, religion, sex age, disability, ancestry, status as a veteran or any other characteristic protected by federal, state, or local law ("Protected Characteristics"). Contractor certifies compliance with applicable federal laws, regulations, EEOC guidance, and executive orders prohibiting discrimination based on the Protected Characteristics in the provision of services.

The Owner will in good faith perform its required obligations hereunder and does not agree to pay any penalties liquidated damages, interest or attorney's fees, except as permitted by Indiana Law.

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No expenses for travel will be reimbursed unless specifically permitted under the scope of services or consideration provisions.

No right conferred on either party under this Contract shall be deemed waived, and no breach of this Contract excused, unless such waiver is in writing and signed by the party claimed to have waived such right. Neither the Owner's review, approval or acceptance of, nor payment for, the services required under this Contract shall be construed to operate as a waiver of any rights under this Contract or of any cause of action arising out of the performance of this Contract, and the Contractor shall be and remain liable to the Owner in accordance with applicable law for all damages to the Owner caused by the Contractor's negligent performance of any of the services furnished under this Contract.

The undersigned attests, subject to the penalties for perjury, he/she is the properly authorized representative, agent, member or officer of the Contractor. Further, to the undersigned's knowledge, neither the undersigned nor any other member, employee, representative, agent or officer of the Contractor, directly or indirectly, has entered into or been offered any sum of money or other consideration for the execution of this Contract other than that which appears upon the face of hereof.



DOCUMENT 006000 - PROJECT FORMS

1.1 FORM OF AGREEMENT AND GENERAL CONDITIONS

- A. The following form of Owner/Contractor Agreement and form of the General Conditions shall be used for Project:
 - 1. AIA Document A101, "Standard Form of Agreement between Owner and Contractor, Stipulated Sum" are included with this section.
 - 2. The General Conditions are included in the Project Manual Section 004413 – General Conditions.
 - 3. The Supplementary Conditions for Project are incorporated into a modified copy of the General Conditions included in the Project Manual Section 004413 – General Conditions.

1.2 ADMINISTRATIVE FORMS

- A. Administrative Forms: the following administrative forms will be used for this project and are not part of this Project Manual.
- B. Copies of AIA standard forms may be obtained from the American Institute of Architects;
<http://www.aia.org/contractdocs/purchase/index.htm>;
docspurchases@aia.org; (800) 942-7732.
- C. Preconstruction Forms:
 - 1. Form of Performance Bond and Labor and Material Bond: AIA Document A312, "Performance Bond and Payment Bond" are included with this section.
- D. Information and Modification Forms:
 - 1. Form for Requests for Information (RFIs): AIA Document G716, "Request for Information (RFI)."
 - 2. Change Order Form: AIA Document G701, "Change Order."
 - 3. Form of Change Directive: AIA Document G714, "Construction Change Directive."
- E. Payment Forms:
 - 1. Schedule of Values Form: AIA Document G703, "Continuation Sheet". Contractor will provide.
 - 2. Payment Application: AIA Document G702/703, "Application and Certificate for Payment and Continuation Sheet". Contractor will provide.



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Various Locations

01/2021

Comm. #200220

3. Form of Contractor's Affidavit: AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims". Architect will provide with punch list.
4. Form of Affidavit of Release of Liens: AIA Document G706A, "Contractor's Affidavit of Payment of Release of Liens". Architect will provide with punch list
5. Form of Consent of Surety: AIA Document G707, "Consent of Surety to Final Payment". Architect will provide with punch list.

END OF DOCUMENT 006000

AIA® Document A101® – 2017

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the day of in the year
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

MSD of Wayne Township
1220 S High School Rd, Indianapolis, IN 46241

and the Contractor:
(Name, legal status, address and other information)

for the following Project:
(Name, location and detailed description)

2021 Roof and Roof Related Work at Various Locations

The Architect:
(Name, legal status, address and other information)

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101®-2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201®-2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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TABLE OF ARTICLES

- 1 THE CONTRACT DOCUMENTS
- 2 THE WORK OF THIS CONTRACT
- 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
- 4 CONTRACT SUM
- 5 PAYMENTS
- 6 DISPUTE RESOLUTION
- 7 TERMINATION OR SUSPENSION
- 8 MISCELLANEOUS PROVISIONS
- 9 ENUMERATION OF CONTRACT DOCUMENTS

EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:

(Check one of the following boxes.)

- ☐ The date of this Agreement.
- ☐ A date set forth in a notice to proceed issued by the Owner.
- ☒ Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

It is the intent of the owner that work at Ben Davis High School, Westlake Elementary School, McClelland Elementary School, and Chapelwood Elementary School begin in the spring of 2021

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

(Check one of the following boxes and complete the necessary information.)

[] Not later than () calendar days from the date of commencement of the Work.

[X] By the following date: The work at Ben Davis High School, Westlake Elementary School, McClelland Elementary School, and Chapelwood Elementary School is to be completed by July 27, 2021.

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work

Substantial Completion Date

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in the amount of funds approved by its board for the Contractor's performance of the Contract. The Contract Sum shall be (\$), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item

Price

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item

Price

Conditions for Acceptance

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item

Price

§ 4.4 Unit prices, if any:

(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item

Units and Limitations

Price per Unit (\$0.00)

§ 4.5 Liquidated damages, if any:

(Insert terms and conditions for liquidated damages, if any.)

The amount owed by Owner will be reduced by \$1,000 per business day if Substantial Completion does not occur as provided in Section 3.3 and any delay a) is not due to a force majeure event beyond the Contractor's anticipation and control or b) due to Owner's fault.

§ 4.6 Other:

(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Work completed, Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the 30th day of the month following its board's approval. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than sixty (60) days after the Architect receives the Application for Payment.

(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™-2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- .3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201-2017;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201-2017; and
- .5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may according to Indiana law withhold the following amount, as retainage, from the payment otherwise due:

(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

Init.

To determine the amount of retainage to be withheld, the Owner shall: (1) withhold no more than ten percent (10%) nor less than six percent (6%) of the dollar value of all work satisfactorily completed until the public work is fifty percent (50%) completed, and nothing further after that; or (2) withhold no more than five percent (5%) nor less than three percent (3%) of the dollar value of all work satisfactorily completed until the public work is substantially completed.

§ 5.1.7.1.1 The following items are not subject to retainage:

(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:

(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:

(Insert any other conditions for release of retainage upon Substantial Completion.)

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201-2017.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201-2017, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment and approval by its board, or as follows:

§ 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

(Insert rate of interest agreed upon, if any.)

0 % zero percent

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201-2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.

Init.

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:

(Check the appropriate box.)

- ☐ Arbitration pursuant to Section 15.4 of AIA Document A201–2017
- ☒ Litigation in a court of competent jurisdiction located in the county in which Owner has its administrative office
- ☐ Other *(Specify)*

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017.

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:

(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

not applicable

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner's representative:

(Name, address, email address, and other information)

Amy Eaton
MSD of Wayne Township
1220 S High School Rd,
Indianapolis, IN 46241

Init.

§ 8.3 The Contractor's representative:
(Name, address, email address, and other information)

§ 8.4 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in Indiana law, AIA Document A201™-2017, , and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in Indiana law, the Instructions to Bidders, AIA Document 201, and elsewhere in the Contract Documents.

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A201-2017, may be given in accordance with the uniform electronic transactions act, or as otherwise set forth below:

(If other than in accordance with AIA Document E203-2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

§ 8.7 Other provisions:

Contractor acknowledges it has reviewed and agrees it will comply with and meet all requirements found in public works and contract statutes applicable to the Work and Project.

Contractor shall secure and pay for the building permit as well as all other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work.

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- .1 AIA Document A101™-2017, Standard Form of Agreement Between Owner and Contractor
- .2
- .3 AIA Document A201™-2017, General Conditions of the Contract for Construction
- .4 AIA Document E203™-2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:
(Insert the date of the E203-2013 incorporated into this Agreement.)

not applicable

- .5 Drawings

Number	Title	Date
--------	-------	------

- .6 Specifications

Section	Title	Date	Pages
---------	-------	------	-------

Int.

.7 Addenda, if any:

Number	Date	Pages
--------	------	-------

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

.8 Other Exhibits:

(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

☐ AIA Document E204™-2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017 incorporated into this Agreement.)

☐ The Sustainability Plan:

Title	Date	Pages
-------	------	-------

☐ Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
----------	-------	------	-------

.9 Other documents, if any, listed below:

(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™-2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

bidding requirements such as advertisement or invitation to bid, Instructions to Bidders, sample forms, and the Contractor's bid

This Agreement entered into as of the day and year first written above.

OWNER (Signature)

CONTRACTOR (Signature)

(Printed name and title)

(Printed name and title)

Int.

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User Notes:

(1176038894)

AIA® Document A312™ – 2010

Payment Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

MSD of Wayne Township
1220 S High School Rd, Indianapolis, IN 46241

CONSTRUCTION CONTRACT

Date:

Amount: \$

Description:

(Name and location)

2021 Roof and Roof Related Work at Various Locations

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond: ☐ None ☐ See Section 18

CONTRACTOR AS PRINCIPAL

Company: *(Corporate Seal)*

SURETY

Company: *(Corporate Seal)*

Signature: _____

Name and

Title:

Signature: _____

Name and

Title:

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of two years from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____ (Corporate Seal)

SURETY

Company: _____ (Corporate Seal)

Signature: _____

Name and Title: _____

Address: _____

Signature: _____

Name and Title: _____

Address: _____

AIA[®] Document A312™ – 2010

Performance Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

MSD of Wayne Township
1220 S High School Rd, Indianapolis, IN 46241

CONSTRUCTION CONTRACT

Date:

Amount: \$

Description:

(Name and location)

2021 Roof and Roof Related Work at Various Locations

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond: ☐ None ☐ See Section 16

CONTRACTOR AS PRINCIPAL

Company: (Corporate Seal)

Signature: _____

Name and

Title:

SURETY

Company: (Corporate Seal)

Signature: _____

Name and

Title:

(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 **Balance of the Contract Price.** The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 **Construction Contract.** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 **Contractor Default.** Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____
(Corporate Seal)

Signature: _____
Name and Title: _____
Address: _____

SURETY

Company: _____
(Corporate Seal)

Signature: _____
Name and Title: _____
Address: _____



MSD OF WAYNE TOWNSHIP
2021 Roof and Roof Related Work at
Various Locations

01/2021

Comm. #200220

SECTION 011000 – SUMMARY- GENERAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Work by Owner.
4. Type of Contract.
5. Work Phases.
6. Access to site.
7. Coordination with occupants.
8. Work restrictions.
9. Specification and drawing conventions.

- B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

- A. Project Identification: 2021 Roof and Roof Related Work at Various Locations
for the Metropolitan School District of Wayne Township

1. Project Locations:

Ben Davis High School
1200 North Girls School Road
Indianapolis, Indiana 46214

Westlake Elementary School
271 North Sigsbee Street
Indianapolis, Indiana 46214



Comm. #200220

MSD OF WAYNE TOWNSHIP
2021 Roof and Roof Related Work at
Various Locations

01/2021

McClelland Elementary School
6740 West Morris Street
Indianapolis, Indiana 46241

Chapelwood Elementary School
1129 North Girls School Road
Indianapolis, Indiana 46214

- B. Owner: Metropolitan School District of Wayne Township
1220 South High School Road
Indianapolis, Indiana, 46241
- C. Owner's Representatives: Mr. Barry Gardner
Director of Finance
MSD of Wayne Township
1220 South High School Road
Indianapolis, Indiana 46241
- Mr. Todd Hendricks
Supervisor of Facilities and Grounds
MSD of Wayne Township
7202 McCarty Street
Indianapolis, Indiana 46241
- D. Contract documents, dated January 15, 2021 and bearing commission number 200220 were prepared for this project by:
1. Architect: the etica group architects engineers
407 Broadway Street
New Haven, Indiana 46774
- a. Architect's Representative: Aaron Conrad
Ph. 260-748-0591
Fax 317-536-3930
Email Aconrad@eticagroup.com

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work for this Project is defined by the Contract Documents and consists of the following:



MSD OF WAYNE TOWNSHIP
2021 Roof and Roof Related Work at
Various Locations

01/2021

Comm. #200220

1. Project One Base Work: Roofing and Roof Related Work to various identified roof areas at Ben Davis High School. The Work will consist of removing the existing roof system or systems and installing a new fully adhered thermoplastic roof system.
 2. Project Two Base Work: Roofing and Roof Related Work to various identified roof areas at Westlake Elementary School. The Work will consist of removing the existing roof system or systems and installing a new 2 ply modified bitumen roof system.
 3. Project Three Base Work: Roofing and Roof Related Work to various identified roof areas at McClelland Elementary School and Chapelwood Elementary School. The Work will consist of removing the existing roof system or systems and installing a new 2 ply modified bitumen roof system.
- B. Contractor is responsible that they and any/or all subcontractors have visited each site, to ensure that they are familiar with each site conditions and verify any/or all existing conditions prior to submitting a bid.

1.5 TYPE OF CONTRACT

- A. The work will be a single prime contract between the Owner and the successful Roofing Contractor. The prime contract shall cover all work in that project for which the contract is written for. The coordination of the work, scheduling of work, sub-contractors and over all field administration, shall be the responsibility of the prime contractor of that project.
- B. MSD of Wayne Township is tax exempt and said tax exempt number will be issued to the successful Contractor or Contractors after the award of work.

1.6 WORK PHASES

- A. The Work for this project or projects is as follows:
1. The work at Ben Davis High School, Westlake Elementary School, McClelland Elementary School, and Chapelwood Elementary School is to begin in the spring of 2021 (when the weather breaks) and be substantially completed by July 27, 2021. When work is done while school is in session all tear-off work for that day must be completed prior to 8:00 a.m.
- B. Before commencing with Work, Contractor shall submit a schedule showing the sequence, commencement and completion dates for each building or site in that project.



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1.7 ACCESS TO SITE

- A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section. If additional use of the site is needed, Contractor is to coordinate with the Owner for use of additional areas on the site before the start of construction. This additional area will be for material storage only. The Owner will have full use of the site and building during the construction and has the right to perform other construction or other activities with their own forces or by other contractors.
- B. Use of Site: Limit use of Project site to areas within the Contract limits indicated on the drawings. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 - 1. Owner Occupancy. The Owner will have full occupancy of the site and the building, Contractor is to allow for the Owner and public use and access at all times.
 - 2. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
 - 3. Storage: Contractor shall limit their use of the project site for storage. If Contractor needs additional use of the project site for storing materials, Contractor is to coordinate those areas with the Owner prior to staging site.
 - a. Contractor shall assume complete responsibility for the protection of all products and materials stored on-site for this Contract.
 - b. Contractor shall move their stored materials immediately when requested by the Owner, when said materials interfere with Owner's operations.
 - c. Contractor shall be responsible for securing their equipment and stored materials, as well as securing their staging area and any access to the building's roof at the close of the day.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations. Contractor is to protect the exterior of the building and the interior of the building and building occupants during the construction. Any damage incurred due to failure to maintain existing building in a weather tight condition, will be the responsibility of the Contractor to repair back to



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original or better condition. Any and all damages incurred during the roofing operations, will be repaired per MSD of Wayne Township standards and quality.

1. Contractor is to submit for approval by MSD of Wayne Township, names of any sub-contractors who the Contractor intends to use to perform any repair work prior to the start of any repair work.

1.8 COORDINATION WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy site and building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
 2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.
 - a. Work for this Contract is at a school building or buildings and during the summer vacation period these facilities may have or will have varying degree of activities occurring on-site and in the building throughout the construction period. Contractor is to coordinate daily with the Owner or Owner's Representative at that building, so as not to substantially interfere with any school activities.

1.9 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 1. Notify Architect not less than two days in advance of proposed utility interruptions.
 2. Obtain Owner's written permission before proceeding with utility interruptions.
- C. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.



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1. Notify Architect and Owner not less than two days in advance of proposed disruptive operations.
 2. Obtain Owner's written permission before proceeding with disruptive operations.
- D. Employee Identification: Owner will provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times while on MSD of Wayne Township property.
- E. Employee Screening: Comply with Owner's requirements for background screening of Contractor personnel working on Project site.
1. Maintain list of approved screened personnel with Owner's representative.
- F. Smoking: All MSD of Wayne Township properties are **SMOKE FREE**. Contractors may smoke inside private owned cars, with windows up and shut.
- G. Contractor employees while on MSD of Wayne Township property are to:
1. Refrain from swearing or using vulgar language
 2. No alcohol.
 3. No interaction with any students at any time.
 4. Respectful interaction with adult staff.
 5. Are not to change clothes on roof or parking lot.
 6. Wear school issued contractor badges at all times while on site.
 7. All Contractor employees will be required to have a background check prior to and on file with the Owner before they are issued a contractor's badge and/or allowed on site.

1.10 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:



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1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000



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SECTION 011012 – SUMMARY - ASBESTOS

PART 1 - GENERAL

1.4 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.5 SUMMARY

- A. Section Includes administrative and procedural requirements for the following:
 - 1. Type of Asbestos Work.
 - 2. Schedule of laboratory test results.
- B. Related Requirements:
 - 1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.
 - 2. Division 1 Section "Reference" for related references and definitions.
 - 3. Division 1 Section "Codes, Regulations and Standards – Asbestos Abatement" for governmental regulations and industry standards.
 - 4. Division 1 Section "Regulated Areas" for procedures for identifying and controlling areas where asbestos abatement is done.
 - 5. Division 2 Section "Cutting and Patching – Asbestos Containing Materials" for the method of removal.
 - 6. Division 2 "Removal of Asbestos – Containing Materials" for the removal procedures of removing asbestos materials.
 - 7. Division 2 "Disposal of Asbestos Containing Material" for the disposal procedures of disposing of asbestos material.

1.6 SUBMITTALS

- A. Plan of Action: submit a written plan detailing the procedures proposed to comply with the requirements of this specification. The plan should include the location and layout of decontamination areas, sequencing of asbestos work, coordination of trades involved in the work, methods used to ensure the safety of building occupants, disposal plan including the location of approved disposal site and methods to control pollution. Describe the use of HEPA ventilation system, removal method to prohibit visible



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emissions in the work area, and the packaging of all removed asbestos materials. Plan must be approved prior to award of Contract between the Owner and the Contractor.

1.7 TYPE OF ASBESTOS WORK

- A. The Work of the Contract can be summarized briefly and without force and effect upon the Contract Documents as follows:
 - 1. The Work includes the **Non-Friable** removal of asbestos-containing materials according to but not limited to the requirements of the following specification
- B. Potential Asbestos Hazard: During the contracted Work, the disturbance or dislocation of asbestos-containing materials may be encountered that may cause asbestos fibers to be released, thus creating a potential health risk. All workers and subcontractors at the job site shall be apprised of the hazard and the need to follow proper work procedures.
 - 1. Where during the work, said workers and subcontractors may encounter, disturb or perform work in the vicinity of any known and identified asbestos-containing materials, they shall take all appropriate measures to protect themselves and building occupants from potential hazard of exposure to airborne asbestos. These measures shall include the procedures and methods described herein and compliance with regulations of applicable Federal, State, and local agencies.

1.5 LABORATORY TEST SUMMARY

- A. Asbestos Containing Materials: The following is a summary of laboratory results by buildings. This summary identifies where known asbestos is present within homogeneous areas of the various roof areas where work is to take place. Bulk samples were taken for laboratory analysis from all identified roof areas. If any other materials are found, which may be suspect to contain asbestos, notify the Owner's Representative immediately. A complete copy of the asbestos laboratory analysis report is appended to the end of this specification section:
 - 1. Ben Davis High School:
 - a. Roof Area 4:
 - 1) SM-20015, built-up roof membrane – Positive (+)
 - b. Roof Area 5:
 - 1) SM-20018, built-up roof membrane – Positive (+)



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- c. Roof Area 6:
 - 1) SM-20019, built-up roof membrane – Positive (+)
- d. Roof Area 7 :
 - 1) SM-20021, built-up roof membrane – Positive (+)

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011012



ANALYSIS OF SUSPECT ASBESTOS CONTAINING BUILDING MATERIALS

METHOD:

All analyses and quantifications are performed in accordance with the U.S. Environmental Protection Agency's "Method for the Determination of Asbestos in Bulk Building Materials", EPA/600/R-93/116 & EPA/600/M4-82/020: "Interim Method for the Determination of Asbestos in Bulk Insulation Samples." ACM Engineering & Environmental Services is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for the scope of accreditation under NVLAP lab code 101977-0. These methods utilize stereoscopic examination of bulk samples, as well as utilizing the polarized light microscope (PLM). To determine the refractive index, the central stop dispersion staining method is used, as well as matching with refractive index oil and using light matching the sodium D line wavelength. Identification of non-asbestos species is less rigorous, as they are of secondary interest.

Gross samples are examined under a 10X or 20X stereoscope where homogeneity (need for sub-samples), texture and/or any other distinguishing characteristics are determined. Any fibrous material is mounted in high dispersion oil for further microscope examination utilizing PLM. Any possible asbestos fibers are analyzed for morphology, color and pleochroism, index of refraction parallel and perpendicular to elongation, birefringence, extinction characteristic and sign of elongation, and any other distinguishing characteristics observed.

The percentage of asbestos and other fibrous materials are then determined according to sample area coverage and thickness. The limit of quantitation is one percent (1%). The above is recorded on the laboratory analysis sheet and maintained for three years. The error involved for reported percentages of fibrous is 100% error for 1% to 5%, 50% error for 5% to 20%, and 25% error for 20% to 100%. All percentages will be reported in a range indicating error or a single value, in which case the above error should be applied. When the value 1% or greater is reported this indicates asbestos is present in the sample.

THE REPORT:

The attached report quantifies the fibrous materials found in each sample submitted for analysis. A complete fibrous analysis of samples is given for each sample followed by a breakdown analysis of any sub-samples for heterogeneous material. The percentages reported are based on Compared Visual Estimate (CVE) with known sample values.

- *The first column* is the client sample number identification.
- *The second column* is the laboratory sample number. The laboratory number for the overall sample analysis is a digit number. The laboratory number followed by a letter designation (A,B,C, etc.) indicates a sub-sample analysis.
- *The third column* is the sample identification, which indicates whether the sample is homogeneous or heterogeneous, the color of the sample, and the physical description (cementitious, fibrous, cloth, etc.)
- *The fourth column* indicates the types and percentages of asbestos identified if any.
- *The fifth column* indicates the types and percentages of cellulose (CELL) non-asbestos identified.
- *The sixth column* indicates the types and percentages of non-fibrous, non-asbestos material (NON -FIB NON-ACBM) identified.
- *The seventh column* indicates the types and percentages of fibrous non-asbestos material (FIB NON ACBM) in the sample or sub-sample.

SAMPLE RETENTION:

Samples will be retained for 6 months unless otherwise instructed. After this period, the sample(s) will be disposed of appropriately. Upon written request, the samples will be returned by mail or delivery for a nominal fee to cover postage and handling. There would be no charge for samples picked-up at ACM Engineering & Environmental Services.

DISCUSSION AND RECOMMENDATIONS:

In order to reduce the risk of introducing asbestos fibers into the air, care should be taken not to disturb the asbestos containing building materials. If renovation, demolition or other activities might disturb known asbestos containing building materials, a reputable asbestos consultant should be contacted to help effectively design and implement an asbestos management program.

COMPONENTS DESCRIPTION:

ASBESTOS MATERIALS

A	= Amosite
AC	= Actinolite
AN	= Anthophyllite
C	= Chrysotile
CR	= Crocidolite
T	= Tremolite
----	= No Asbestos Detected

NON-ASBESTOS MATERIALS

CF	= Ceramic Fibers	N	= Nylon
CO	= Cotton	O	= Other
G	= Fibrous Glass	S	= Synthetics
H	= Hair	V	= Vermiculite
M	= Mineral Wool		

NOTE: ACM Engineering & Environmental Services does not deviate from the test method described in this report. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report relates only to the items above. This report must not be reproduced, except in full, without the written consent of ACM Engineering & Environmental Services. The results reported relate only to the samples provided by the customer and tested by the laboratory.

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ASBESTOS ANALYSIS REPORT



Project Name:

MSD Wayne Township

Buildings:

Ben Davis High School

Address:

1200 N Girls School Road
Indianapolis, Indiana 46214

Building Contact:

Bldg. Contact Phone:

Project Number:

200220

Inspector:

Sean Mettert

Date:

10/27/2020

email:

smettert@etica-group.com

Phone:

(260) 748-0591

Sample Number	Material Type	HA #	Functional Space	Sample Location	Average Material Condition		Total Amt. of material	Type of Asbestos	% Asbestos	% Other Material
					No Damage	Friable				
SM-20015	M/O Roofing	4	Roof	NE corner of roof area @ fascia	Damage Significant Damage	Non-Friable				
SM-20016	M/O Roofing	4	Roof	Next to east roof drain	No Damage	Friable				
SM-20017	M/O Roofing	5	Roof	West perimeter of roof area @ fascia	Damage Significant Damage	Non-Friable				
SM-20018	M/O Roofing	5	Roof	Next to center roof drain	No Damage	Friable				
SM-20019	M/O Roofing	6	Roof	Center of roof area	Damage Significant Damage	Non-Friable				
SM-20020	M/O Roofing	6	Roof	Next to west roof drain	No Damage	Friable				
SM-20021	M/O Roofing	7	Roof	Next to center roof drain	Damage Significant Damage	Non-Friable				

*****Lab Use*****

Relinquished By:

(signature)

Date:

10/29/20

Received By:

(signature)

Date:

10/29/20

Relinquished By:

(signature)

Date:

10/29/20

Corporate Office:

7172 N. Keystone Ave., Suite Indianapolis, Indiana 46240

Northern Indiana Office: 407 Broadway Street New Haven, Indiana 46774

Phone: 317.466.9520

Fax: 317.536.3930

Phone: 260.748.0591

Fax: 317.536.3930

**ACM ENGINEERING & ENVIRONMENTAL SERVICES****WWW.ACMENV.COM****26598 U.S. 20 WEST, SOUTH BEND, IN 46628****P: (574)234-8435 F: (574)234-6800**

CLIENT: Etica Group
407 Broadway Street
New Haven, IN 46774
LOCATION: MSD Wayne Township
Ben Davis High School
1200 N. Girls School Road
Indianapolis, IN 46214

ANALYSIS METHODS: EPA/600/R-93-116 &
EPA/600/M4-82-020
NVLAP LAB CODE: 101977-0
MATRIX: Bulk
Sample Date: 10/27/20
Analysis Date: 10/29/20
ACM PROJECT #: 31753

CLIENT SAMPLE #	LAB SAMPLE #	SAMPLE IDENTIFICATION	ASBEST	CELL	NON FIB NON ACBM	FIB NON ACBM
SM-20015	2012111	M/O ROOFING - NE CORNER OF ROOF AREA	13% C	67%	20%	----
SM-20016	2012112	M/O ROOFING - NEXT TO EAST ROOF DRAIN	12% C	71%	17%	----
SM-20017	2012113	M/O ROOFING - WEST PERIMETER OF ROOF	13% C	71%	16%	----
SM-20018	2012114	M/O ROOFING - NEXT TO CENTER DRAIN	14% C	70%	16%	----
SM-20019	2012115	M/O ROOFING - CENTER OF ROOF AREA	12% C	73%	15%	----
SM-20020	2012116	M/O ROOFING - NEXT TO WEST DRAIN	11% C	73%	16%	----
SM-20021	2012117	M/O ROOFING - NEXT TO CENTER DRAIN	13% C	74%	13%	----

**ACM RECOMMENDS POINT COUNTING ANALYSIS ON ALL BULK SAMPLES
WITH LESS THAN 10% (<10%) ASBESTOS CONTENT.**

Microscopist:

Title: Laboratory Director

Date: 10/29/20

Revision 5, 6/24/20



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SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
 - 1. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
 - 1. Contingency allowances.

1.3 SELECTION AND PURCHASE

- A. At Architect's or Owner's request, prepare quotes for any work that would use money from said allowance(s). Include recommendations that are relevant to performing the Work. All request for work using said allowance funds must be submitted and completed in a timely fashion as to avoid delaying the Contract Work.

1.4 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

1.5 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.



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- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.6 CONTINGENCY ALLOWANCES

- A. Use the contingency allowance only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- B. Contractor's related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, insurance, equipment rental, and similar costs. Contractors overhead and profit margins are included in the Contractor's Base Bid and will not be considered on any additional work to be paid from the Allowance Funds.
 - 1. After all Allowance Funds are exhausted, the Contractor can claim overhead and profit. The Contractor's combined overhead and profit shall not exceed 15% maximum.
- C. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

1.7 CHANGE ORDERS

- A. After Owner's approval of a proposal request, the Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.
 - 1. One Change Order will be issued for this project or Projects and it will be issued at Substantial Completion.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.



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3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Contractor is to include the following allowance amounts in their respective Base Work Bid or Bids:
 - 1. Project One Roof Work
 - a. Base Work: \$7,500.00
 - 2. Project Two Roof Work
 - a. Base Work: \$7,500.00
 - 3. Project Three Roof Work
 - a. Base Work: \$7,500.00

END OF SECTION 012100



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SECTION 01 2300 - ALTERNATES

PART 1 - GENERAL

A. RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

B. SUMMARY

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

C. DEFINITIONS

- A. Alternate: An amount 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. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

D. PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
- B. Notification: Contractor will be notified of award of the Contract, in writing, and the notification will indicate which alternates have been accepted, rejected, or deferred for later consideration.
- C. Execute accepted alternates under the same conditions as other work of the Contract.



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- D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Project One – Roof Work

1. **Alternate One:** is for the removal of the existing roof system or systems and installing a new fully adhered thermoplastic roof system to additional areas at Ben Davis High School.
2. **Alternate Two:** is for the removal of the existing roof system or systems and installing a new fully adhered thermoplastic roof system to additional areas at Ben Davis High School.

B. Project Two – Roof Work

1. **Alternate One:** is for the removal of the existing roof system or systems and installing a new 2 ply modified bitumen roof system to additional areas at Westlake Elementary School.
2. **Alternate Two:** is for the removal of the existing roof system or systems and installing a new 2 ply modified bitumen roof system to additional areas at Westlake Elementary School.
3. **Alternate Three:** is for the removal of the existing roof system or systems and installing a new 2 ply modified bitumen roof system to additional areas at Westlake Elementary School.
4. **Alternate Four:** is for masonry repairs to the existing chimney identified at Westlake Elementary School.

C. Project Three – Roof Work

1. **Alternate One:** is for the removal of the existing roof system or systems and installing a new 2 ply modified bitumen roof system to additional areas at McClelland Elementary School.



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2. **Alternate Two:** is for the removal of the existing roof system or systems and installing a new 2 ply modified bitumen roof system to additional areas at McClelland Elementary School.

END OF SECTION 01 2300



SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor that are not required in order to meet other Project requirements but may offer advantage to Contractor.

1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication, or installation cannot be provided, if applicable.
 - b. Coordination information, including a list of changes or revisions needed to other parts of the Work that will be necessary to accommodate proposed substitution.



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- c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Written approval.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.



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1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
 - 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.
 - f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.
 - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: **Not allowed.**



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PART 3 - EXECUTION (Not Used)

END OF SECTION 012500



SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Section 012100 "Allowances" for procedural requirements governing the handling and processing of allowances.
 - 2. Section 012300 "Alternates" for administrative requirements governing the use of accepted Alternates

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with continuation sheets.
 - b. Contractor's construction schedule.



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2. Submit the schedule of values to Architect at earliest possible date. Approved Schedule of Values will be required as part of the Contractor's pre-contractual documents, prior to award of a Contract.
- B. Format and Content: By Project, if multiple projects are awarded, they can be together as one. However, each building is to have its own schedule of value sheet including all accepted alternates. Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Architect's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Arrange schedule of values consistent with format of AIA Document G703
 3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
 - a. Bonds.
 - b. Insurance.
 - c. Staging Cost.
 - d. Dump Cost.
 - e. Tear-off labor cost.
 - f. Wood blocking material cost.
 - g. Wood blocking labor cost.
 - h. Insulation material cost
 - i. Insulation labor cost.
 - j. Roof material cost.
 - k. Roof material labor cost.
 - l. Sheet metal material cost.
 - m. Sheet metal Labor cost.
 - n. Roof accessories material cost (list each item separate).
 - o. Roof accessories labor cost.
 - p. Name of each sub-contractor cost.
 - q. Warranty cost.
 - r. Contingency Allowance amount.
 - s. Change Orders (by numbers)
 - t. Dollar value shall be:
 - 1) As a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.



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4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts, where appropriate.
5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
6. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.
7. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
8. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
9. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: Submit 1 original copy or electronic PDF copy of each Application for Payment to Architect by method ensuring receipt to Architect 3 weeks prior to the Owner's regularly scheduled school board meeting. One copy shall include waivers of lien and similar attachments if required.
 1. MSD of Wayne Township takes and approves all Applications for Payment at their first regularly scheduled school board meeting of the month, which is the second Monday of the month.



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- C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 - 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 - 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 - 3. Include amounts of Change Orders issued before last day of construction period covered by application.
- E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
 - 1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
 - 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 - 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
 - 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 - 2. When an application shows completion of an item, submit conditional final or full waivers.
 - 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - 4. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.



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- G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Submittal schedule (preliminary if not final).
 5. Copies of building permits.
 6. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 7. Certificates of insurance and insurance policies.
 8. Performance and payment bonds.
- H. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- I. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
 6. AIA Document G707, "Consent of Surety to Final Payment."
 7. Evidence that claims have been settled.
 8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 9. Final liquidated damages settlement statement.



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PART 3 - EXECUTION (Not Used)

END OF SECTION 012900



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SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Contractor's construction schedule.
 - 2. Construction schedule updating reports.

1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
- B. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- C. Event: The starting or ending point of an activity.

1.4 INFORMATIONAL SUBMITTALS

- A. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
 - 1. Submit a PDF copy of complete construction schedule.



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- B. Construction Schedule Updating Reports: Submit with Applications for Payment.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for commencement of the Work to date of final completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Comply with the following:
 - 1. Substantial Completion: Indicate completion in advance of date established for Substantial Completion and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
 - 2. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and final completion.
- C. Recovery Schedule: When periodic update indicates the Work is 7 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance and date by which recovery will be accomplished.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 30 days of date established for commencement of the Work or at schedule pre-construction conference. Base schedule on the startup construction schedule and additional information received since the start of Project.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.



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PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At bi-weekly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 - 3. As the Work progresses, indicate final completion percentage for each activity.

END OF SECTION 013200



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SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Preconstruction photographs.

1.3 ALLOWANCES

- A. Costs: for Pre-construction photographic documentation will be the contractor's responsibility

1.4 INFORMATIONAL SUBMITTALS

- A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph.
- B. Pre-Construction Photographs: Submit image files within 10 days of starting work.
 - 1. Identification: Provide the following information with each image description in file metadata tag:
 - a. Name of Project.
 - b. Name and contact information for photographer.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Date photograph was taken.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - g. Unique sequential identifier keyed to accompanying key plan. Retain "Construction Photographs" Paragraph below if Contractor is required to submit hard-copy prints of digital photographs in addition to electronic file submittal.



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PART 2 - PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of 8 megapixels, and at an image resolution of not less than 3200 by 2400 pixels.

PART 3 - EXECUTION

3.1 PRE-CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
 - 1. Maintain key plan with each set of pre-construction photographs that identifies each photographic location.
- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 - 1. Date and Time: Include date and time in file name for each image.
- C. Preconstruction Photographs: Before commencement of work, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points.
 - 1. Take enough photographs to show and document existing conditions before start of Work, including but not limited to parking lots, sidewalks, curbs, grounds, exterior elevations of building in staging area, adjacent roof areas, roof top equipment that is to remain, etc.
 - 2. Failure to provide pre-construction photographs, documenting existing conditions prior to the start of Work, will result in said Contractor being held responsible to repair damage to any existing condition regardless of whether damages was caused or done by Contractor.

END OF SECTION 013233



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SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Requirements:
 - 1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
 - 2. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
 - 3. Section 013233 "Photographic Documentation" for submitting pre-construction photographs.
 - 4. Section 017700 "Closeout Procedures" for submitting final closeout documents and warranties.
 - 5. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action.
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements.



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1.4 ACTION SUBMITTALS

- A. Submittals: Coordinate preparation and processing of submittals with construction activities, include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
 - 1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will not be provided by Architect for Contractor's use in preparing submittals.
 - 1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project record drawings.
 - a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
 - b. The following digital data files will be furnished for each appropriate discipline:
 - 1) Roof Plans.
 - 2) Roof Details.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 - 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 - 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No



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extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 14 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Resubmittal Review: Allow 7 days for review of each resubmittal.
- D. Paper Submittals: Place a permanent label or title block on each submittal item for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately 6 by 8 inches (150 by 200 mm) on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
 3. Include the following information for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name of Contractor.
 - d. Name of subcontractor.
 - e. Name of manufacturer.
 - f. Number and title of appropriate Specification Section.
 - g. Drawing number and detail references, as appropriate.
 - h. Location(s) where product is to be installed, as appropriate.
 - i. Other necessary identification.
 4. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
 - a. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.
 5. Transmittal for Paper Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return without review submittals received from sources other than Contractor.
 - a. Transmittal Form for Paper Submittals: Provide locations on form for the following information:
 - 1) Project name.
 - 2) Date.
 - 3) Destination (To:).
 - 4) Source (From:).
 - 5) Name of Contractor.



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- 6) Category and type of submittal.
- 7) Submittal purpose and description.
- 8) Specification Section number and title.
- 9) Drawing number and detail references, as appropriate.
- 10) Indication of full or partial submittal.
- 11) Transmittal number.
- 12) Submittal and transmittal distribution record.
- 13) Remarks.
- 14) Signature of transmitter.

E. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).
3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
4. Transmittal Form for Electronic Submittals: Use **electronic form** acceptable to Architect, containing the following information:
 - a. Project name.
 - b. Date.
 - c. Name of Contractor.
 - d. Category and type of submittal.
 - e. Submittal purpose and description.
 - f. Specification Section number and title.
 - g. Drawing number and detail references, as appropriate.
 - h. Location(s) where product is to be installed, as appropriate.
 - i. Related physical samples submitted directly.
 - j. Indication of full or partial submittal.
 - k. Transmittal number.
 - l. Submittal and transmittal distribution record.
 - m. Other necessary identification.
 - n. Remarks.
5. Metadata: Include the following information as keywords in the electronic submittal file metadata:



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- a. Project name.
 - b. Number and title of appropriate Specification Section.
 - c. Manufacturer name.
 - d. Product name.
- F. Options: Identify options requiring selection by Architect.
- G. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
1. Note date and content of previous submittal.
 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- J. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Submit electronic submittals via email as PDF electronic files.
 - a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
 2. Action Submittals: Submit five paper copies of each submittal unless otherwise indicated. Architect will return three copies.



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3. Informational Submittals: Submit two paper copies of each submittal unless otherwise indicated. Architect will not return copies.
 4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
 - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Standard color charts.
 - e. Manufacturer's written recommendations.
 - f. Testing by recognized testing agency.
 - g. Compliance with specified referenced standards.
 4. Submit Product Data before or concurrent with Samples.
 5. Submit Product Data in the following format:
 - a. PDF electronic file.
 - b. Five paper copies of Product Data unless otherwise indicated. Architect will return three copies.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Dimensions
 - c. Fabrication and installation drawings.



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- d. Rough-in and setting diagrams.
 - e. Shopwork manufacturing instructions.
 - f. Templates and patterns.
 - g. Design calculations.
 - h. Compliance with specified standards.
 - i. Notation of dimensions established by field measurement.
 - j. Relationship and attachment to adjoining construction clearly indicated.
 - k. Seal and signature of professional engineer if specified.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm), but no larger than 30 by 42 inches (750 by 1067 mm).
 3. Submit Shop Drawings in the following format:
 - a. PDF electronic file.
 - b. five opaque (bond) copies of each submittal. Architect will return three copies.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
 1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit three full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return one submittal with options selected.
 5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in



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manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

- a. Number of Samples: Submit three sets of Samples. Architect will retain one Sample sets; one will be returned.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- F. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- G. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- H. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- I. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- J. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- K. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.



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PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Project Closeout: See requirements in Section 017700 "Closeout Procedures.
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

- A. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate **action**.
- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- C. Partial submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Submittals not required by the Contract Documents may be returned by the Architect without action.

END OF SECTION 013300



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SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.



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1.3 ABESTOS RELATED DEFINITIONS

- A. "General Superintendent": Contractor's Representative at the work site and should be the Competent Person required by OSHA in 29 CFR 1926.
- B. "Accredited or Accreditation": a person or laboratory accredited in accordance with section 206 of Title II of Toxic Substances Control Act (TSCA).
- C. "Aerosol": A system consisting of particles, solid or liquid suspended in air.
- D. "Air Monitoring": Process of measuring fiber content of a specific volume of air.
- E. "Amended Water": Water which surfactant has been added to decrease the surface tension to 35 or less dynes.
- F. "Asbestos": Asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite and actinolite-tremolite. For purpose of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or alters shall be considered as asbestos.
- G. "Asbestos-Containing Material (ACM)": Any material containing more than 1% by weight of asbestos of any type of mixture of types.
- H. "Asbestos-Containing Building Material (ACBM)": Surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.
- I. "Asbestos-Containing Waste Material": Any material which is or is suspected of being or any material contaminated with an asbestos-containing material which is to be removed from a work area for disposal.
- J. "Asbestos Debris": Pieces of ACBM that can be identified by color, texture or composition or means dust, if the dust is determined by an accredited inspector to be ACM.
- K. "Authorized Visitor": The Owner, Owner's Representative, testing lab personnel, Architect/Engineer, emergency personnel or a representative of any Federal, State or Local regulatory or other agency having authority over the project.
- L. "Barrier": any surface that seals off the work area to inhibit the movement of fibers.
- M. "Breathing Zone": A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.
- N. "Ceiling Concentration": Concentration of an airborne substance that shall not be exceeded.



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- O. "Certified Industrial Hygienist (C.I.H.)": An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.
- P. "Demolition": the wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.
- Q. "Disposal Bag": A properly labeled 6 mil thick leakproof plastic bag used for transporting asbestos waste from work and to disposal site.
- R. "Encapsulate": A material that surrounds or embeds asbestos fibers in an adhesive matrix, to prevent release of fibers. Types of encapsulates:
 - 1. Bridging Encapsulant: is an encapsulant that forms a discrete layer on the surface of an asbestos matrix.
 - 2. Penetrating Encapsulant: is an encapsulant that is absorbed by the asbestos matrix without leaving a discrete surface layer.
 - 3. Removal Encapsulant: is an encapsulant designed to minimize fibers released during removal of asbestos-containing materials.
- S. "Encapsulation": Treatment of asbestos-containing materials, with an encapsulant.
- T. "Filter": A media component used in respirators to remove solid or liquid particles from the inspired air.
- U. "Friable Asbestos Material": Material that contains more than 1.0% asbestos by area and that can be crumbled, pulverized, or reduced to powder by hand pressure.
- V. "HEPA Filter": A high efficiency particulate air (HEPA) filter capable of trapping and retaining 99.9% of asbestos fibers greater than 0.3 microns in diameter.
- W. "HEPA Filter Vacuum Collection Equipment": High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.9% efficiency for retaining fibers of 0.3 microns or larger.
- X. "High-efficiency particulate air filter": (HEPA) refers to a filtering system capable of trapping and retaining 99.9% percent of all monodisperses particles 0.3 um in diameter or larger.
- Y. "Personal Monitoring": Sampling of the asbestos fiber concentrations within the breathing zone of an employee.
- Z. "Repair": Returning damage ACM to an undamaged condition or to an intact state so as to prevent fiber release.



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- AA. "Respirator": a device designed to protect the wearer from the inhalation of harmful atmospheres.
- BB. "Surfactant": A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation.
- CC. "Time Weighted Average (TWA)": the average concentration of a contaminant in air during a specific time period.
- DD. "Visible Emissions": any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.
- EE. "Wet Cleaning": Process of eliminating asbestos contamination from building surfaces and objects by using clothes, mops or other cleaning items which have been dampened with amended water or dilute removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.
- FF. "Work Area" The area where asbestos related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers, and entry by unauthorized personnel. Work area is a Regulated Area as defined by 29 CFR 1926.

1.4 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.5 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in



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the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. ACI - American Concrete Institute; (Formerly: ACI International); www.abma.com.
2. AIA - American Institute of Architects (The); www.aia.org.
3. AISC - American Institute of Steel Construction; www.aisc.org.
4. ANSI - American National Standards Institute; www.ansi.org.
5. APA - APA - The Engineered Wood Association; www.apawood.org.
6. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.
7. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
8. ASTM - ASTM International; www.astm.org.
9. AWWPA - American Wood Protection Association; www.awpa.com.
10. BIA - Brick Industry Association (The); www.gobrick.com.
11. CDA - Copper Development Association; www.copper.org.
12. CSI - Construction Specifications Institute (The); www.csinet.org.
13. FM Approvals - FM Approvals LLC; www.fmglobal.com.
14. ICBO - International Conference of Building Officials; (See ICC).
15. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
16. NRCA - National Roofing Contractors Association; www.nrca.net.
17. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
18. SPIB - Southern Pine Inspection Bureau; www.spib.org.
19. SPRI - Single Ply Roofing Industry; www.spri.org.
20. UL - Underwriters Laboratories Inc.; www.ul.com.
21. WWPA - Western Wood Products Association; www.wwpa.org.

- B. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.

1. EPA - Environmental Protection Agency; www.epa.gov.
2. FAA - Federal Aviation Administration; www.faa.gov.
3. FG - Federal Government Publications; www.gpo.gov.
4. OSHA - Occupational Safety & Health Administration; www.osha.gov.
5. USPS - United States Postal Service; www.usps.com.



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PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200



SECTION 014221 – ASBESTOS CODES, REGULATIONS AND STANDARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for governmental regulations and industry standards. It also includes notices and permits which either needs to be applied for or received and given to said governmental agencies before start of work.
 - 1. Work practices and procedures as set forth per applicable codes, regulations and standards
 - 2. Obtaining permits, licenses, inspections, release and similar documents, including payments and statements as set forth per applicable codes, regulations and standards.
- B. Related Sections include the following:
 - 1. Division 1 Section "References" for procedures for common definitions and terms.
- C. Unless more explicit or stringent requirements are written into the Contract Document, all applicable codes, regulations and standards shall have the same force and effect, and are to be made part of the Contract Documents per reference, as if copied or published copies were bound herein to the Contract Documents.

1.3 REQUIREMENTS

- A. The following Federal Requirements for governing asbestos abatement work and/or hauling and disposal of asbestos waste material include but are not limited to the following:
 - 1. OSHA: U.S. Department of Labor, Occupational Safety and Health Administration (OSHA):
 - a. Construction Industry Asbestos Standard: Final Rule Title 29, Part 1926, Section 1101 of the Code of Federal Regulations (current edition).

- b. Occupational Exposure to Asbestos – Tremolite, Anthophyllite and Actinolite; Final Rules Title 29, Part 1910, Section 1001 and Part 1926, Section 58 of the Code of Federal Regulations.
 - c. Respiratory Protection Title 29, Part 1910, Section 134 of the Code of Federal Regulations.
 - d. Construction Industry Title 29, Part 1926, of the Code of Federal Regulations.
 - e. Access to Employee Exposure and Medical Records Title 29, part 1910, Section 2 of the Code of Federal Regulations.
 - f. Hazard Communication Title 29, Part 1910, Section 1200 of the Code of Federal Regulations.
 - g. Specifications for Accident Prevention Signs and Tags Title 29, Part 1910, Section 145 of the Code of Federal Regulations.
 - 2. DOT: U.S. Department of Transportation:
 - a. Hazardous Substances Title 29, Part 171 and 172 of the Code of Federal Regulations.
 - 3. EPA: U.S. Environmental Protection Agency (EPA):
 - a. Asbestos Abatement Project, Worker Protection Rule Title 40 Part 763, Sub-part G of the Code of Federal Regulations.
 - b. Asbestos Hazards Emergency Response Act (AHERA) Regulation Asbestos Containing Materials in Schools Final Rule & Notice Title 40, Part 763, Sub-part E of the Code of Federal Regulations.
 - c. Training Requirements of AHERA Regulation Asbestos Containing Materials in Schools Final Rule and Notice Title 40, Part 763, Sub-part E, Appendix C of the Code of Federal Regulations.
 - d. National Emissions Standards for Hazardous Air Pollutants (NESHAP) National Emission Standard for Asbestos Title 40, Part 61, Sub-part A and Sub-part M (revised Sub-part B) of the Code of Federal Regulations.
- B. The following State Agencies Requirements for governing asbestos abatement work and/or hauling and disposal of asbestos waste material include but are not limited to the following:
- 1. Indiana Department of Labor (IOSHA)
402 West Washington Street, Room W195
Indianapolis, Indiana 46204
 - 2. Indiana Department of Environmental Management
Office of Air Management (OAM) Asbestos Section
105 South Meridian Street
Indianapolis, Indiana 46206-6015
 - 3. Indiana Department of Environmental Management
Office of Solid and Hazardous Waste Management
105 South Meridian Street
Post Office Box 6015



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- C. Abide by all local requirements, which the project is in, that govern asbestos abatement work and/or hauling and disposal of asbestos containing materials.

1.4 SUBMITTALS

- A. Prior to start of work, send written notification as required by both State and Local regulations for any work on Asbestos Containing Materials.
- B. Copy of Waste Haulers Permit.
- C. For the Owner's record, submit copies of all permits, licenses, certifications, inspection reports and similar documents in conjunction with the compliance of Federal, State and Local regulations, including the following:
 - 1. Submit copies of the current State and Local Regulations applicable to the Work.
 - 2. Submit copies of all notices requires by Federal, State and Local Regulations, with proof of transmittal to said agency requiring the notice.
 - 3. Submit copies of all State and Local license and permits required to perform the work under this contract.

1.5 CONTRACTOR RESPONSIBILITIES

- A. Contractor shall assume full responsibility and liability for compliance with all Federal, State and Local regulations regarding all work practices, hauling, disposal and protection of its workers, Sub-contractor workers, Owners personal, Visitors and general population in areas adjacent to the site. Contractor is responsible for providing medical examinations, as well as, maintaining all medical records of personnel as required by the applicable Federal, State, and Local regulations. Contractor shall also hold the Owner and Owner's Representative harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulations, including their workers and any sub-contractors.

1.6 PERMITS AND LICENSES

- A. Asbestos containing material, which is to be transport from site to disposal site, is to be done by a hauler maintaining a current "Industrial Waste Hauler Permit" specifically for asbestos-containing materials.
- B. Contractor doing the removal, transporting, disposal or other regulated activity for the work, shall maintain all current licenses as required by applicable State or Local jurisdiction for the removal, transporting, disposal of asbestos containing material.



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- C. Post all notices as required by applicable Federal, State and Local regulations. Contractor is to maintain two (2) copies of all applicable notices and post one (1) at each job site and keep on file in Contractor's office.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 014221



SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

1.3 USE CHARGES

- A. Water Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- B. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
 - 1. If additional power is required or needed by the Contractor for the Contract Work, it will be the Contractor's responsibility to provide at their expense.
 - 2. Power for welding operations will be from portable generators and not from existing building service.

1.4 INFORMATIONAL SUBMITTALS

- A. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

- B. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage.
 - 1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.
 - 2. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.

1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.6 PROJECT CONDITIONS

- A. Contractor shall confine activities to areas directly related to scope of work.
- B. Contractor to schedule and coordinate the use of temporary services with the Owner prior to the commencement of work.
- C. Contractor to coordinate with Owner for access to site, construction storage, parking and staging areas. Contractor will be responsible for repairs to any damage to site caused by access to site, construction storage, parking and staging area.
- D. Contractor responsible for receiving, handling, transporting, installing and maintaining any or all construction material, products or equipment.
- E. Contractor to keep temporary services and facilities clean, neat and in working order. Use and operate temporary services in safe and efficient manner, Do Not overload temporary services or to cause interference with Owners operations. Do not allow hazardous, dangerous or unsanitary conditions or public nuisances to develop or persist on site or in staging area.
- F. Contractor is to maintain that all entrances, including loading docks and emergency exits must remain open, in operation, unobstructed and available for normal daily operations.
- G. Contractor is to maintain existing building security throughout the construction. Secure the site and building against entrance of unauthorized persons through construction areas.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Portable Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.8-mm-) thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized-steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide galvanized-steel bases for supporting posts.
- B. Wood Enclosure: Plywood, 8 feet (2.4 m) high, framed with four 2-by-4-inch (50-by-100-mm) rails.
- C. Polyethylene Sheet for Temporary Protection of Roofing Material: Reinforced, fire-resistive sheet, 10-mil (0.25-mm) minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.
- D. Tarpaulins for use as temporary interior protection: provide translucent, nylon-reinforced, laminated polyethylene or poly chloride, fire-retardant tarpaulins.
- E. Water Hoses: ¾ inch (19-mm), heavy-duty, abrasion-resistant, flexible rubber hoses, with adjustable shut-off nozzles at hose discharge.
- F. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher-voltage outlets. Outlets to be equipped with ground-fault circuit interrupters and reset button.
- G. Electrical Power Chords: Grounded extension cords only. Use hard service chords where exposed to abrasion and traffic.
- H. Lights: General Service incandescent lamps. Provide lights with guard cages or tempered-glass enclosures. Provide exterior fixtures where expose to moisture.
- I. Fire Extinguishers: Hand-carried, portable, UL-rated, Class ABC, dry chemical.
 - 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required for location and class of fire exposure.



PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- B. Sanitary Facilities: Contractor to provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
 - 1. Toilets: Use of Owner's existing toilet facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- C. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.

3.3 SUPPORT FACILITIES INSTALLATION

- A. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- B. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

- C. Project Identification and Temporary Signs: Install signs where required to keep public out of project site. Unauthorized signs are not permitted.
 - a. Provide temporary, directional signs for public parking and access into building.
- D. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction.
 - 1. Collect and dispose of waste daily and in lawful manner.
 - 2. Handle hazardous, dangerous or unsanitary waste materials separately from other waste by containerizing properly.
 - 3. Do not hold materials more than 7 days during normal weather or 3 days when temperatures rise above 80 deg F (27 deg C).
- E. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
 - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- C. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
- D. Site Enclosure/Security Fence: Before construction operations begin, furnish and install temporary enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates and unauthorized entrance, vandalism, theft, and similar violations of security.
 - 1. Extent of Fence: As required to enclose entire staging area and material storage site.
 - 2. Lock entrances at end of each work day.
 - 3. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.

- E. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- F. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- G. Covered Walkway: Erect structurally protective, covered walkway for passage of individuals through or adjacent to Project site where overhead construction work is being done. Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction.
 - 1. Construct covered walkways using scaffold or shoring framing.
 - 2. Provide overhead wood plank decking, protective plywood enclosure walls, handrails, barricades, warning signs, exit signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage.
- H. Temporary Fire Protection: Provide and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.
 - 1. Prohibit smoking in construction areas.
 - 2. Provide and locate fire extinguishers where convenient and effective for intend use, but not less than one fire extinguisher on the roof. Maintain unobstructed access to fire extinguisher.
 - 3. Store all combustible materials in containers in fire-safe locations.
 - 4. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.

3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
- C. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.



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1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 2. Where staging area was in landscape areas, remove all construction debris, including gravel and asphalt that might impair growth of plant materials or lawns. Repair, clean or replace street paving, curbs, and sidewalks that were damaged or stained due to construction operations.
 3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."
- D. Repair of Damaged Areas: All landscaping, driveways and parking lot areas, etc. which have been used and/or damaged by construction operations or material storage, shall be repaired and restored to original condition to the approval of the Owner before release of final payment to Contractor at the Contractor's expense.

END OF SECTION 015000



SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the Work.
- B. Related Requirements:
 - 1. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.3 ACTION SUBMITTALS

- A. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

1.4 CLOSEOUT SUBMITTALS

- A. Consent of Surety to final payment.
- B. Waivers of Liens from all sub-contractors and major material suppliers over \$10,000.
- C. Evidence of final, continuing insurance coverage complying with insurance requirements.
- D. Specified warranties.



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- E. Record drawings and specifications.
- F. Sworn affidavit stating that NO materials containing asbestos or polychlorinated biphenyl (PCB) were used or installed for this project.
- G. Final payment applications and supporting documents.
- H. Signed change order(s) document for change to contract sum.

1.5 SUBSTANTIAL COMPLETION PROCEDURES

- A. General: Certificate of Substantial Completion will be issued in accordance with the General Conditions of the Contract for Construction and will be issued after the final inspection of work on the AIA Document G704.
- B. Contractor's: Before requesting final inspection, which will be determining data of Substantial Completion complete the following:
 - 1. Contractor's punch list: Contractor is to prepare a complete list of items to be completed or corrected, indicating the value of each item on the list and reasons why the Work is incomplete and submit this list to Architect.
 - a. Contractor's punch list shall be as thorough and completed as possible and should include the Work under their Contract and that of their sub-contractor(s).
 - 2. Terminate and remove all temporary facilities from Project Site, tools, equipment and similar elements.
 - 3. Complete final cleaning requirements, including touch up painting.
- C. Inspection: Submit a written request for final inspection to determine Substantial Completion a minimum of 7 days prior to date the work will be completed and ready for final inspection. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after final inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before final payment will be issued.
- D. Re-inspection: Upon written notice from the Contractor that said items listed on Architects Punch List have been completed, Architect will re-inspect the Work to verify that said work has been completed.
 - 1. If the Architect finds that any portion or all the work has not been completed, they will repeal the inspection and advise the Contractor of Work that is incomplete or obligations that have not been fulfilled by the Contractor, but are required.



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2. If the Architect finds that any portion of the work was not completed at the time of re-inspection. The Architect's time to do the re-inspection and any additional re-inspections, will be deducted from the Contractor's Retainage, based on Architect's billing rate at time of any re-inspection.
3. Results of completed inspection will form the basis of requirements for Final Completion.

1.6 FINAL COMPLETION PROCEDURES

- A. Before requesting final completion and final payment, complete the following:
 1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
 2. Certified List of Incomplete Items: Submit copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), Certifying that each item has been completed or otherwise resolved for acceptance.
 3. Consent of Surety to final payment.
 4. Waivers of Liens from all sub-contractors and major material suppliers over \$10,000.
 5. Evidence of final, continuing insurance coverage complying with insurance requirements.
 6. Submit specified warranties.
 7. Submit record drawings and specifications.
 8. Signed change order(s) document for change to contract sum.
 9. Sworn affidavit stating that NO materials containing asbestos or polychlorinated biphenyl (PCB) were used or installed for this project.

1.7 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit warranties for complete work ONLY as part of the final completion documentation, warranty dates shall commence as the date of substantial completion.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.



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PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - f. Remove debris from roofs.
 - g. Leave Project clean and ready for occupancy.
- C. Construction Waste Disposal: Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."

END OF SECTION 017700



SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
- B. Related Requirements:
 - 1. Section 017700 "Closeout Procedures" for general closeout procedures.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit marked-up record drawings, whether or not any changes were made to scope of work or additional information was recorded as follows:
 - a. Final Submittal:
 - 1) Submit PDF electronic files of scanned record prints and one set(s) of prints.
- B. Record Specifications: Submit one paper copy and annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit one paper copy and annotated PDF electronic files of each submittal.

1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of the Contract Drawings on site to be used as record drawings.
 1. Preparation: Mark record prints to show the actual daily installation of new roof sections, including dimensions and start times. Also show where installation varies from that shown originally on both roof plan and details. Include changes made by change orders.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Mark important additional information that is either shown schematically or omitted from original drawings.
 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Actual equipment locations.
 - d. Changes made by Change Order or Construction Work or Change Directive and noted as such.
 - e. Changes made following Architect's written orders and noted as such.
 - f. Details not on the original Contract Drawings.
 - g. Location of any buried latent elements.
 - h. Areas of deck repair or replacement.
 - i. Change in Taper design or were additional taper was added.
 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 5. Mark important additional information that was either shown schematically or omitted from original Drawings.



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6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Digital Data Files: After completion of marked-up record prints, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
 1. Format: Annotated PDF electronic file with comment function enabled.
 2. Architect will furnish Contractor one set of digital data files of the Contract Drawings for use in recording information.
 - a. See Section 013300 "Submittal Procedures" for requirements related to use of Architect's digital data files.
- C. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location and the following:
 1. Identification: As follows:
 - a. Designation "PROJECT RECORD DRAWINGS."
 - b. Date.
 - c. Name of Contractor.

2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
 5. Note related Change Orders[, **record Product Data,**] and record Drawings where applicable.
- B. Format: Submit record Specifications as one paper copy and scanned PDF electronic file(s) of marked-up paper copy of Specifications.



2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders, record Specifications and record Drawings where applicable.
- B. Format: Submit record Product Data as one paper copy and a scanned PDF electronic file(s) of marked-up paper copy of Product Data.
 - 1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.



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SECTION 024100 – CUTTING AND PATCHING – ABESTOS CONTAINING MATERIALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes procedural requirements for cutting and patching of asbestos containing materials within the existing roof systems, including related flashing and strippings.
- B. Related Sections include the following:
 - 1. Division 1 Section "Selective Demolition" for demolition of selected portions of the building.
 - 2. Division 1 Section "Regulated Areas" for warning and securing area where asbestos removal takes place.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

PART 2 - PRODUCTS

- A. Provide local exhaust ventilation system that complies with ANSI 29.2-1971.

PART 3 - EXECUTION



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- A. Prior to starting any cutting of asbestos materials, comply with Section 015500 Regulated Areas.
- B. Perform removal of **Non-Friable** asbestos containing materials through methods and work practices that will not subject the material to sanding, grinding, cutting, or abrading and the dispersal of asbestos fibers into the air. No Mechanical forces shall be used on asbestos containing material that would make the material friable. High speed saws shall not be used to cut asbestos containing material for removal.
 - 1. The removal of asbestos-containing roofing material shall be done as not to constitute it as an "Asbestos Removal Project" as defined by the Indiana State Asbestos Rules per the Indiana Department of Environmental Management.
- C. If any portion or edges of any asbestos containing material becomes exposed do to cutting, drilling, abrading, etc., seal said edges or areas that have become exposed, with two (2) coats of approved penetrating encapsulate, applied per manufacturer's printed instruction.

END OF SECTION 024100



SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Removal of selected roof system(s) and related roof work.
 - 2. Removal of existing masonry on identified building elevation.
 - 3. Salvage of existing items to be reused or turned over to Owner.
 - 4. Protection of internal and external building elements that are to remain from damage during roof and masonry work.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for restrictions on use of the premises, Owner-occupancy requirements, and phasing requirements.
 - 2. Section 017300 "Execution" for cutting and patching procedures.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.



1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For refrigerant recovery technician.
- B. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
 - 4. Means of protection for items to remain and items in path of waste removal from building.
- C. Pre-Construction Photographs: Show existing conditions of adjoining construction, including finish surfaces that might be misconstrued as damage caused by demolition operations. Comply with Section 013233 "Photographic Documentation." Submit before Work begins.
- D. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.6 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.7 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
 - 1. Comply with requirements specified in Division 1 Section "Summary."
 - 2. Provide not less than 72 hours notice to Owner if selected demolition will affect Owner's operations.



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3. Owner assumes no responsibility for actual conditions of building or portions of building where selective demolition is to occur.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work, unless it is otherwise noted on drawings and specified herein.
 1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. Hazardous Materials: Present in buildings and structures to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
 1. Hazardous material remediation is specified elsewhere in the Contract Documents.
 2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
 3. Owner will provide material safety data sheets for suspected hazardous materials that are known to be present in buildings and structures to be selectively demolished because of building operations or processes performed there.
- F. Storage or sale of removed items or materials on-site is not permitted.
- G. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 1. Maintain fire-protection facilities in service during selective demolition operations.
- H. Photographs: It will be the Contractor's responsibility to photograph sufficiently any details of existing conditions of adjacent building or site conditions that might be misconstrued as damage caused during selective demolition operations, during contract operations. Comply with Division 1 Section "Photograph Documentation".
- I. Damages: Contractor shall promptly repair any and all damage caused to any interior conditions, exterior building elements or site conditions, by selective demolition work at no cost to the Owner. This includes interior conditions that become damaged or soiled due to lack of interior protection or failure to provide adequate night tie-offs.



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1. Any damage incurred due to roofing operations are the responsibility of the Contractor to repair back to the original condition. All damages shall be repaired according to MSD of Wayne Township specifications and direction.
 2. If damages are incurred, Contractor is to submit to MSD of Wayne Township for approval, list of any or all sub-contractors that will make repairs, prior to start of any repair work.
- J. Traffic: Contractor to conduct demolition operations and removal in a manner to ensure Minimum interference with roads, streets, sidewalks, entrances, loading docks and any other adjacent occupied or used facilities. Comply with Division 1 Section "Temporary Facilities and Controls".

1.8 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties. Notify warrantor before proceeding.

1.9 COORDINATION

- A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

- B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. When unanticipated latent mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
 - 1. Latent Elements: If any unanticipated latent element (e.g. electrical conduit or structural component) are encountered during the removal of the existing roof system and are damaged due to the Contractor removing the existing roof system, it will be the Contractor's responsibility to verify the presence of any additional latent elements and take precautions to avoid any future damage. If latent elements are incurred and damaged, the Owner will incur the cost to repair back to original condition, the first occurrence only. Any additional occurrences to the same latent element will be the Contractor's responsibility to repair back to original condition.
 - a. Latent elements identified on drawings: if known latent elements or the possibility exist of latent elements is noted on drawings and if said latent elements are damaged, the Contractor will incur the cost to repair back to original condition.
- D. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.
 - 1. Comply with requirements specified in Division 1 Section "Photographic Documentation."
 - 2. Prior to commencement of any selective demolition work, Contractor is to inspect areas in which work will be performed, cease operations and notify Owner's representative immediately if safety of structure appears to be endangered.
- E. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 PREPARATION

- A. Refrigerant: Before raising any roof top equipment that has been indicated to be raise, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Comply with requirements for access and protection specified in Division 1 Section "Temporary Facilities and Controls."

2. Do not block or close any street, sidewalks, entrances without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
 2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 3. Disconnect, demolish, and remove, plumbing, systems, and roof top equipment, and components indicated on Drawings to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Equipment to Be Raised and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - e. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

3.4 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 3. Cover and protect furniture, furnishings, and equipment that have not been removed.



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- B. Remove temporary barricades and protections where hazards no longer exist.

3.5 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
 - 1. Store items in a secure area until delivery to Owner.
 - 2. Transport items to Owner's area designated by Owner.
 - 3. Protect items from damage or thief during transport and storage.
- D. Removed and Reinstalled Items:
 - 1. Clean and repair items to functional condition adequate for intended reuse.
 - 2. Protect items from damage or thief while stored on-site.
 - 3. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

3.6 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.
- B. Roofing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight.
 - 1. Remove existing roof membrane, flashings, copings, and roof accessories.
 - 2. Remove existing roofing system down to substrate.



3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated on to be reused, salvaged, reinstalled or indicated to remain Owner's property, remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 - 4. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
- B. Burning: Do not burn demolished materials.

3.8 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.
 - 1. Upon completion of Work, remove all tools, equipment, and debris from site. Remove any or all interior protection measures and staging area protection.
 - 2. Return existing structures and surfaces to conditions prior to selective demolition Work.
 - 3. Repair and clean adjacent construction, existing building elements and site conditions damaged during selective demolition work back to original condition.
 - 4. Return all interior conditions damaged or soiled during selective demolition work back to original condition.
 - a. Properly repair, replace, or clean any damaged or soiled MSD of Wayne Township property, including interior conditions, lawns and landscaping, that was damaged or soiled during the roofing operations with new or equal value prior to start of work.



SECTION 024120 – REMOVAL OF ASBESTOS CONTAINING MATERIALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for the following:
 - 1. Removal process for removing non-friable asbestos containing material
- B. Related Sections include the following:
 - 1. Division 1 Section "Reference" for related references and definitions.
 - 2. Division 1 Section "Codes, Regulations and Standards – Asbestos Abatement" for governmental regulations and industry standards.
 - 3. Division 2 Section "Cutting and Patching – Asbestos Containing Materials" for the method of removal.
 - 4. Division 2 "Disposal of Asbestos Containing Material" for the disposal procedures of disposing of asbestos material.

PART 2 - PRODUCTS

2.1 WETTING MATERIALS

- A. For wetting prior to disturbance of Asbestos-containing materials.
 - 1. Amended Water: Provide water which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the asbestos-containing material and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant.
 - 2. Removal Encapsulate: Provide a penetrating type encapsulate designed specifically for removal of asbestos-containing material. Use a material which results in wetting of the asbestos-containing material and retardation of fiber release during disturbance of the material equal to or greater than that provided by water amended with a surfactant consisting of one ounce of a mixture of 50% polyoxyethyleneser and 50% polyoxyethylene ether in five (5) gallons of water.



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2.2 AUXILIARY ASBESTOS PRODUCTS

- A. Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6.0 mil thick, clear, frosted or black.
- B. Duct Tape: minimum 2" widths with an adhesive formulated to aggressively stick.
- C. Disposal Bags: 6 mil thick, leak-proof polyethylene bags, labeled as required by Section 01735 – Disposal of Asbestos Containing Waste Material.
- D. Fiberboard Drums: heavy duty leak tight fiberboard drums, with tight sealing, locking metal lids.
- E. Paper Board Boxes: heavy duty corrugated paper board boxes, coated with plastic or wax to prevent deterioration due to moisture. Provide boxes in sizes in which disposal bags will easily fit.

PART 3 - EXECUTION

3.1 GENERAL

- A. Perform removal of non-friable asbestos-containing material through engineering controls and work practices that will not subject the material to sanding, grinding, cutting or abrading and which minimizes the dispersal of asbestos fibers into the air. Any mechanical forces expected to act on the material shall not make the material friable. High speed saws shall not be used for asbestos-containing material removal operations.

3.2 WET REMOVAL

- A. Thoroughly wet asbestos-containing materials that are to be removed prior to stripping and/or tooling to reduce the potential fiber dispersal into the air. Accomplish wetting by with a fine spray of amended water or removal encapsulate. Saturate material sufficiently to wet substrate without causing excessive dripping. If amended water is used, spray material repeatedly during the removal process to maintain continuously wet conditions to reduce airborne fiber levels. If removal encapsulate is used, apply in removal encapsulate in accordance with manufacturer's written instructions.
- B. Remove wetted asbestos containing material in small sections, do not allow wetted material to dry out. Pack wetted material into required disposal bags. Seal disposal bags by twisting the neck of bag, bend neck over and wrap with duct tape – provide minimum of three (3) wraps.
- C. Do not wet asbestos containing material around active electrical equipment and dry remove.

END OF SECTION 024120



SECTION 024125 – DISPOSAL OF ASBESTOS CONTAINING MATERIALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for the following:
 - 1. Disposal process for non-friable asbestos containing material and asbestos containing material that may be come friable.
- B. Related Sections include the following:
 - 1. Division 1 Section "Reference" for related references and definitions.
 - 2. Division 1 Section "Codes, Regulations and Standards – Asbestos Abatement" for governmental regulations and industry standards.
 - 3. Division 2 Section "Cutting and Patching – Asbestos Containing Materials" for the method of removal.
 - 4. Division 2 "Removal of Asbestos Containing Material" for the disposal procedures of disposing of asbestos material.

1.3 SUBMITTALS

- A. Prior to the start of Work, submit the following for review and approval:
 - 1. Copy of State or local License for waste hauler transporting asbestos containing material
 - 2. Name, address and telephone number of the landfill where asbestos containing material is to be disposed of.
 - 3. If asbestos containing material is to be processed into non-asbestos waste, provide the name, address and telephone number of the processor. Along with the following documentation:
 - a. Product data of process



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- b. Documentation from the United States Environmental Protection Agency, indicating that the processor and process used can produce an asbestos free product and is capable of satisfying the requirements for an acceptable "alternative" method of complying with Section 61.152 (a) of the NESHAP for asbestos.
4. Provide a chain of Custody forms for every load.
5. As part of the Project Close-out documents, provide copies of all manifest and landfill disposal site receipts.

PART 2 - PRODUCTS

2.1 DISPOSAL BAGS

- A. Provide Disposal bags for friable asbestos containing material that are 6 mil thick, leak-tight polyethylene bags, with three separate attached labels that read as follows:

1. First Label:

CAUTION
CONTAINS ASBESTOS FIBERS
AVOID OPENING OR BREAKING BAG
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH

2. Second Label in accordance with 29 CFR 1910, 1200 (f) of OSHA's Hazard Communication standard:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST CANCER AND LUNG DISEASE HAZARD
BREATHING AIRBORNE ASBESTOS, TREMOLITE, ANTHOPHYLITE OR
ACTINOLITE FIBERS IS HAZARDOUS TO YOUR HEALTH

3. Third Label in accordance with U.S. Department of Transportation regulation on hazardous waste marking, 49, CFR parts 171 and 172; Hazardous Substance: Final Rule.

RQ HAZARDOUS
SUBSTANCE
SOLID, NOS
ORM-E, NA 9188
(ASBESTOS)



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PART 3 - EXECUTION

3.1 GENERAL

- A. Non-friable asbestos-containing material if handled properly can be disposed of as normal construction waste.

3.2 REMOVAL

- A. Lower all asbestos containing material, both non-friable and friable to the ground by crane, hoist or other methods which will reduce the potential for air-borne fiber release into the air. Throwing or dumping via chute is not permitted.
- B. Interior of truck bed or dumpster used to transport shall be lined with critical and primary barriers
- C. Asbestos containing material, both non-friable and friable material is to be carefully loaded into fully enclosed dumpsters, trucks, or other approved vehicles for transport.
- D. Do not store asbestos containing material in or outside of the Work Area. Once asbestos containing material is removed, immediately load into seal truck or dumpster.

3.3 TRANSPORTING

- A. Do not transport non-friable or bagged asbestos containing material in open trucks or dumpsters.

3.4 LANDFILL

- A. Retain all receipts from landfill or processor for all materials disposed of.

END OF SECTION 024125



SECTION 040120.63 - BRICK MASONRY REPAIR

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Removal and Patching brick masonry, including tuckpointing of existing mortar joints and replacing damaged units.

1.3 ALLOWANCES

- A. Allowances for brick masonry repairs that is additional work above what is indicated on drawings will be from amount specified in Section 012100 "Allowances."

1.4 UNIT PRICES

- A. Work of this Section is affected by unit prices specified and requested on Contractors Supplement Bid Form "
 - 1. Unit prices apply to authorized work covered by Unit prices listed on the bid form.
 - 2. Unit prices apply to additions to and deletions from Work as authorized by Change Orders.

1.5 DEFINITIONS

- A. Low-Pressure Spray: 100 to 400 psi (690 to 2750 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).
- B. Medium-Pressure Spray: 400 to 800 psi (2750 to 5500kPa); 4 to 6 gpm (0.25 to 0.4 L/s).
- C. High-Pressure Spray: 800 to 1200 psi (5500 to 8250 ka); 4 to 6 gpm (0.25 to 0.4 L/s)

- D. Rebuilding (Setting) Mortar: Mortar used to set and anchor masonry in a structure, distinct from pointing mortar installed after masonry is set in place.
- E. Saturation Coefficient: Ratio of the weight of water absorbed during immersion in cold water to weight absorbed during immersion in boiling water; used as an indication of resistance of masonry units to freezing and thawing.

1.6 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review methods and procedures related to brick masonry repair including, but not limited to, the following:
 - a. Verify brick masonry repair specialist's personnel, equipment, and facilities needed to make progress and avoid delays.
 - b. Select both new brick and mortar matches to existing.
 - c. Materials application, sequencing, tolerances, and required clearances.
 - d. Quality-control program.
 - e. Coordination with building occupants.

1.7 SEQUENCING AND SCHEDULING

- A. Order sand and gray portland cement for colored mortar immediately after approval of Samples and or mockups. Take delivery of and store at Project site enough quantity to complete Project.
- B. Work Sequence: Perform brick masonry repair work in the following sequence, which includes work specified in this and other Sections:
 - 1. Remove plant growth.
 - 2. Inspect masonry for open mortar joints and point them before cleaning to prevent the intrusion of water and other cleaning materials into the wall.
 - 3. Remove paint.
 - 4. Rake out mortar from joints surrounding masonry to be replaced and from joints adjacent to masonry repairs along joints.
 - 5. Repair masonry, including replacing existing masonry with new masonry materials.
 - 6. Rake out mortar from joints to be repointed.
 - 7. Point mortar and sealant joints.
 - 8. After repairs and repointing have been completed and cured, perform a final cleaning to remove residues from this work.
 - 9. Clean masonry.

- C. As scaffolding is removed, patch anchor holes used to attach scaffolding. Patch holes in masonry units according to "Masonry Unit Patching" Article. Patch holes in mortar joints according to Section 040120.64 "Brick Masonry Repointing."

1.8 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - 2. Include recommendations for product application and use. Include test data substantiating that products comply with requirements.
- B. Shop Drawings:
 - 1. Include plans, elevations, sections, and locations of replacement masonry units on the structure, showing relation of existing and new or relocated units.
 - 2. Show provisions for expansion joints or other sealant joints.
 - 3. Show locations of scaffolding and points of scaffolding in contact with masonry. Include details of each point of contact or anchorage.
- C. Samples for Initial Selection: For the following:
 - 1. Colored Mortar: Submit sets of mortar that will be left exposed in the form of sample mortar strips, 6 inches (150 mm) long by 1/2 inch (13 mm) wide, set in aluminum or plastic channels.
 - a. Have each set contain a close color range of at least three Samples of different mixes of colored sands and cements that produce a mortar matching existing, cleaned mortar when cured and dry.
 - b. Submit with precise measurements on ingredients, proportions, gradations, and source of colored sands from which each Sample was made.
 - 2. Sand Types Used for Mortar: Minimum 8 oz. (240 mL) of each in plastic screw-top jars.
 - 3. Patching Compound: Submit sets of patching compound Samples in the form of plugs (patches in drilled holes) in sample units of masonry representative of the range of masonry colors on the building.
 - a. Have each set contain a close color range of at least three Samples of different mixes of patching compound that matches the variations in existing masonry when cured and dry.

4. Include similar Samples of accessories involving color selection.

D. Samples for Verification: For the following:

1. Each type of brick unit to be used for replacing existing units. Include sets of Samples to show the full range of shape, color, and texture to be expected. For each brick type, provide straps or panels containing at least four bricks. Include multiple straps for brick with a wide range.
2. Each type of patching compound in the form of briquettes, at least 3 inches (75 mm) long by 1-1/2 inches (38 mm) wide. Document each Sample with manufacturer and stock number or other information necessary to order additional material.
3. Accessories: Each type of accessory and miscellaneous support.

1.9 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For brick masonry repair specialist including field supervisors and workers.
- B. Restoration Program: For each phase of restoration process, provide detailed description of materials, methods, equipment and sequence of operations to be used for each phase of restoration work including protection of surrounding materials on building and Project site.
 1. Include methods for keeping pointing mortar damp during curing period.
 2. If materials and methods other than those indicated are proposed for any phase of restoration work, provide written description, including evidence of successful use on comparable projects, and a testing program to demonstrate their effectiveness for this project.
- C. Cleaning Program: Describe cleaning process in detail, including materials, methods and equipment to be used and protection of surrounding materials on building and project site and control run-off during operations.
 1. If materials and methods other than those indicated are proposed for any phase of restoration work, provide written description, including evidence of successful use on comparable projects, and a testing program to demonstrate their effectiveness for this project.

1.10 QUALITY ASSURANCE

- A. Brick Masonry Repair Specialist Qualifications: Engage an experienced brick masonry repair firm to perform work of this Section. Firm shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful

in-service performance. Experience in only installing masonry is insufficient experience for masonry repair work.

1. Field Supervision: Brick masonry repair specialist firm shall maintain experienced full-time supervisors on Project site during times that brick masonry repair work is in progress.
 2. Brick Masonry Repair Worker Qualifications: When masonry units are being patched, assign at least one worker per crew who is trained and certified by manufacturer of patching compound to apply its products.
- B. Quality-Control Program: Prepare a written quality-control program for this Project to systematically demonstrate the ability of personnel to properly follow methods and use materials and tools without damaging masonry. Include provisions for supervising performance and preventing damage.
- C. Mockups: Prepare mockups of brick masonry repair to demonstrate aesthetic effects and to set quality standards for materials and execution and for fabrication and installation.
1. Masonry Repair: Prepare sample areas for each type of masonry repair work performed. If not otherwise indicated, size each mockup not smaller than two adjacent whole units or approximately 48 inches (1200 mm) in least dimension. Construct sample areas in locations in existing walls where directed by Architect unless otherwise indicated. Demonstrate quality of materials, workmanship, and blending with existing work. Include the following as a minimum:
 - a. Replacement: six brick units replaced.
 - b. Patching: Three small holes at least 1 inch (25 mm) in diameter for each type of brick indicated to be patched.
 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.11 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on masonry units as follows:
1. Provide test specimens as indicated and representative of proposed materials and existing construction.
 2. Replacement Brick: Test each proposed type of replacement masonry unit according to sampling and testing methods in ASTM C 67 for compressive

- strength, 24-hour cold-water absorption, five-hour boil absorption, saturation coefficient, and initial rate of absorption (suction).
3. Existing Brick: Test each type of existing masonry unit indicated for replacement according to testing methods in ASTM C 67 for compressive strength, 24-hour cold-water absorption, five-hour boil absorption, saturation coefficient, and initial rate of absorption (suction). Carefully remove five existing units from locations designated by Architect. Take testing samples from these units.
 4. Existing Mortar: Test according to ASTM C 295/C 295M, modified as agreed by testing service and Architect for Project requirements, to determine proportional composition of original ingredients, sizes and colors of aggregates, and approximate strength.
 5. Temporary Patch: As directed by Architect, provide temporary materials followed by permanent repairs at locations from which existing samples were taken.

1.12 DELIVERY, STORAGE, AND HANDLING

- A. Deliver masonry units to Project site strapped together in suitable packs or pallets or in heavy-duty cartons and protected against impact and chipping.
- B. Deliver packaged materials to Project site in manufacturer's original and unopened containers, labeled with manufacturer's name and type of products.
- C. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- D. Store hydrated lime in manufacturer's original and unopened containers. Discard lime if containers have been damaged or have been opened for more than two days.
- E. Store sand where grading and other required characteristics can be maintained and contamination avoided.
- F. Handle masonry units to prevent overstressing, chipping, defacement, and other damage.

1.13 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit brick masonry repair work to be performed according to product manufacturers' written instructions and specified requirements.
- B. Temperature Limits, General: Repair masonry units only when air temperature is between 40 and 90 deg F (4 and 32 deg C) and is predicted to remain so for at least seven days after completion of the Work unless otherwise indicated.



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- C. Hot-Weather Requirements: Protect masonry repairs when temperature and humidity conditions produce excessive evaporation of water from mortar and repair materials. Provide artificial shade and wind breaks, and use cooled materials as required to minimize evaporation. Do not apply mortar to substrates with temperatures of 90 deg F (32 deg C) and above unless otherwise indicated.
- D. For manufactured repair materials, perform work within the environmental limits set by each manufacturer.
- E. Clean masonry surfaces only when air temperature is 40 deg F (4 deg C) and above and is predicted to remain so for at least 7 days after completion of cleaning.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Source Limitations: Obtain each type of material for repairing brick masonry (brick, cement, sand, etc.) from single source with resources to provide materials of consistent quality in appearance and physical properties.

2.2 MASONRY MATERIALS

- A. Face Brick: As required to complete brick masonry repair work.
 - 1. Brick Matching Existing: Units with colors, color variation within units, surface texture, size, and shape that match existing brickwork and with physical properties within 10 percent of those determined from preconstruction testing of selected existing units.
 - a. For existing brickwork that exhibits a range of colors or color variation within units, provide brick that proportionally matches that range and variation rather than brick that matches an individual color within that range.
 - 2. Tolerances as Fabricated: According to tolerance requirements in ASTM C 216, Type FBX
- B. Building Brick: ASTM C 62, of same vertical dimension as face brick, for masonry work concealed from view.
 - 1. Grade SW where in contact with earth.
 - 2. Grade SW for concealed backup.



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2.3 MORTAR MATERIALS

- A. Portland Cement: ASTM C 150/C 150M, Type I or Type II, except Type III may be used for cold-weather construction; white or gray where required for color matching of mortar.
 - 1. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C 114.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Quicklime; ASTM C 5, pulverized lime.
- D. Mortar Sand: ASTM C 144.
 - 1. Exposed Mortar: Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.
 - 2. Colored Mortar: Natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.
 - 3. For pointing mortar, provide sand with rounded edges.
- E. Mortar Pigments: ASTM C 979/C 979M, compounded for use in mortar mixes, and having a record of satisfactory performance in masonry mortars.
- F. Water: Potable.

2.4 ACCESSORY MATERIALS

- A. Setting Buttons and Shims: Resilient plastic, nonstaining to masonry, sized to suit joint thicknesses and bed depths of masonry units, less the required depth of pointing materials unless removed before pointing.
- B. Masking Tape: Nonstaining, nonabsorbent material; compatible with mortar, joint primers, sealants, and surfaces adjacent to joints; and that easily comes off entirely, including adhesive.
- C. Antirust Coating: Fast-curing, lead- and chromate-free, self-curing, universal modified-alkyd primer according to MPI #23 (surface-tolerant, anticorrosive metal primer).
 - 1. Surface Preparation: Use coating requiring no better than SSPC-SP 2, "Hand Tool Cleaning" surface preparation according to manufacturer's literature or certified statement.
 - 2. VOC Limit: Use coating with a VOC content of 400 g/L (3.3 lb/gal.) or less.



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- D. Other Products: Select materials and methods of use based on the following, subject to approval of a mockup:
1. Previous effectiveness in performing the work involved.
 2. Minimal possibility of damaging exposed surfaces.
 3. Consistency of each application.
 4. Uniformity of the resulting overall appearance.
 5. Do not use products or tools that could leave residue on surfaces.

2.5 MORTAR MIXES

- A. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
- B. Colored Mortar: Produce mortar of color required by using specified ingredients. Do not alter specified proportions without Architect's approval.
1. Mortar Pigments: Where mortar pigments are indicated, do not add pigment exceeding 10 percent by weight of the cementitious or binder materials, except for carbon black which is limited to 2 percent, unless otherwise demonstrated by a satisfactory history of performance.
- C. Do not use admixtures in mortar unless otherwise indicated.
- D. Mixes: Mix mortar materials in the following proportions:
1. Rebuilding (Setting) Mortar by Type: ASTM C 270, Proportion Specification, Type N unless otherwise indicated; with cementitious material limited to portland cement and lime. Mix thoroughly cementitious materials and sand together before adding any water. Then mix again adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in its dampened condition for 15 to 30 minutes. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within one hour of final mixing; do not retemper or use partially hardened material.
 2. Pigmented, Colored Mortar: Add mortar pigments to produce exposed, setting (rebuilding) mortar of colors required.
 3. Mortar Proportions: Mix mortar materials in the following proportions:
 - a. Pointing Mortar for Brick: 1 part Portland Cement, 1 part lime and 6 parts sand.
 - b. Add mortar pigments to produce mortar colors as required.

2.7 CLEANING MATERIALS

- A. Water for Cleaning: Potable.
- B. Hot Water: Heat water to a temperature of 140 to 160 deg F (60 to 7q deg C).
- C. Job-mix Detergent Solution: Solution prepared by mixing 2 cups (0.5 L) of tetrasodium polyphosphate (TSPP), ½ cup (125 ml) of laundry detergent and 20 quarts (20 L) of hot water for every 5 gallons (20 L) of solution required.
- D. Nonacidic Gel Cleaner: Manufacturer's standard gel formulation, with ph between 6 and 9 that contains detergents and cleaning agents and specifically formulated for cleaning masonry surfaces.
 - 1. "ProSoCo; Sure Klean 942 Masonry Cleaner."
- E. Two-part Chemical Cleaner: Manufacturer's standard system consisting of potassium or sodium hydroxide based, alkaline prewash cleaner and acidic after wash cleaner that does not contain hydrofluoric acid.
 - 1. ProSoCo; "Sure Klean 766 Limestone & Masonry Pre and After Wash."

PART 3 - EXECUTION

3.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants for harm resulting from masonry restoration work.
 - 1. Erect temporary protective covers over any and all walkway and points of pedestrian and vehicular entrance and exists that must remain in service during course of restoration work.
- B. Prevent mortar from staining face of surrounding masonry and other surfaces.
 - 1. Cover sills, ledges, and other projecting items to protect them from mortar droppings.
 - 2. Keep wall area wet below rebuilding and repair work to discourage mortar from adhering.
 - 3. Immediately remove mortar splatters in contact with exposed masonry and other surfaces.
- C. Remove gutters and downspouts and associated hardware adjacent to masonry and store during masonry repair. Reinstall when repairs are complete.
 - 1. Provide temporary rain drainage during work to direct water away from building.

- D. Comply with chemical cleaner manufacturer's written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent chemical cleaning solutions from coming into contact with pedestrians, motor vehicles, landscaping, building and other surfaces that could be harmed by such contact.
 - 1. Cover adjacent surfaces with materials that are proven to resist chemical cleaners used unless chemical cleaners being used will not damage adjacent surfaces. Use materials that contain only waterproof, UV resistant adhesive. Apply masking agents to comply with manufacturer's written instruction. Do not apply liquid masking agent to painted or porous surfaces. When no longer needed. Promptly remove masking to prevent adhesive staining.
 - 2. Keep wall wet below area being cleaned to prevent streaking from runoff.
 - 3. Do not clean masonry during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
 - 4. Neutralize and collect alkaline and acid waste for disposal off Owner's property.
 - 5. Dispose of runoff from cleaning operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping and water penetration into building interiors

3.2 MASONRY REPAIR, GENERAL

- A. Appearance Standard: Repaired surfaces are to have a uniform appearance as viewed from 50 feet (15 m) away by Architect.

3.3 BRICK REMOVAL AND REPLACEMENT

- A. At locations indicated, remove bricks that are damaged, spalled, or deteriorated or are to be reused. Carefully remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.
 - 1. When removing single bricks, remove material from center of brick and work toward outside edges.
- B. Support and protect remaining masonry that surrounds removal area.
- C. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition. Coordinate with new flashing, reinforcement, and lintels.
- D. Notify Architect of unforeseen detrimental conditions including voids, cracks, bulges, and loose units in existing masonry backup, rotted wood, rusted metal, and other deteriorated items.

- E. Remove in an undamaged condition as many whole bricks as possible.
 - 1. Remove mortar, loose particles, and soil from brick by cleaning with hand chisels, brushes, and water.
 - 2. Remove sealants by cutting close to brick with utility knife and cleaning with solvents.
 - 3. Store brick for reuse. Store off ground, on skids, and protected from weather.
 - 4. Deliver cleaned brick not required for reuse to Owner unless otherwise indicated.
- F. Clean masonry surrounding removal areas by removing mortar, dust, and loose particles in preparation for brick replacement.
- G. Replace removed damaged brick with other removed brick in good condition, where possible, or with new brick matching existing brick. Do not use broken units unless they can be cut to usable size.
- H. Install replacement brick into bonding and coursing pattern of existing brick. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.
 - 1. Maintain joint width for replacement units to match existing joints.
 - 2. Use setting buttons or shims to set units accurately spaced with uniform joints.
- I. Lay replacement brick with rebuilding (setting) mortar and with completely filled bed, head, and collar joints. Butter ends with enough mortar to fill head joints and shove into place. Wet both replacement and surrounding bricks that have ASTM C 67 initial rates of absorption (suction) of more than 30 g/30 sq. in. per min. (30 g/194 sq. cm per min.) Use wetting methods that ensure that units are nearly saturated but surface is dry when laid.
 - 1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.
 - 2. Rake out mortar used for laying brick before mortar sets according to Section 040120.64 "Brick Masonry Repointing." Point at same time as repointing of surrounding area.
 - 3. When mortar is hard enough to support units, remove shims and other devices interfering with pointing of joints.
- J. Curing: Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours, including weekends and holidays.
 - 1. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.

3.4 PAINTING STEEL UNCOVERED DURING THE WORK

- A. Notify Architect if steel is exposed during masonry removal. Where Architect determines that steel is structural, or for other reasons cannot be totally removed, prepare and paint it as follows:
 - 1. Surface Preparation: Remove paint, rust, and other contaminants according to SSPC-SP 2, "Hand Tool Cleaning" or SSPC-SP 3, "Power Tool Cleaning" as applicable to comply with paint manufacturer's recommended preparation.
 - 2. Antirust Coating: Immediately paint exposed steel with two coats of antirust coating, following coating manufacturer's written instructions and without exceeding manufacturer's recommended rate of application (dry film thickness per coat).
- B. If on inspection and rust removal, the thickness of a steel member is found to be reduced from rust by more than 1/16 inch (1.6 mm) , notify Architect before proceeding.

3.5 MASONRY UNIT PATCHING

- A. Patch the following masonry units unless another type of repair or replacement is indicated:
 - 1. Units indicated to be patched.
 - 2. Units with holes.
 - 3. Units with chipped edges or corners. Patch chipped edges or corners measuring more than 3/4 inch (19 mm) in least dimension.
 - 4. Units with small areas of deep deterioration. Patch deep deteriorations measuring more than 3/4 inch (19 mm) in least dimension and more than 1/4 inch (6 mm) deep.
- B. Remove and replace existing patches where indicated or approved by Architect.
- C. Patching Bricks:
 - 1. Remove loose material from masonry surface. Carefully remove additional material so patch does not have feathered edges but has square or slightly undercut edges on area to be patched and is at least 1/4 inch (6 mm) thick, but not less than recommended in writing by patching compound manufacturer.
 - 2. Mask adjacent mortar joint or rake out for repointing if patch extends to edge of masonry unit.
 - 3. Mix patching compound in individual batches to match each unit being patched. Combine one or more colors of patching compound, as needed, to produce exact match.
 - 4. Rinse surface to be patched and leave damp, but without standing water.

5. Brush-coat surfaces with slurry coat of patching compound according to manufacturer's written instructions.
6. Place patching compound in layers as recommended in writing by patching compound manufacturer, but not less than 1/4 inch (6 mm) or more than 2 inches (50 mm) thick. Roughen surface of each layer to provide a key for next layer.
7. Trowel, scrape, or carve surface of patch to match texture and surrounding surface plane or contour of masonry unit. Shape and finish surface before or after curing, as determined by testing, to best match existing masonry unit.
8. Keep each layer damp for 72 hours or until patching compound has set.
9. Remove and replace patches with hairline cracks or that show separation from brick at edges, and those that do not match adjoining brick in color or texture.

3.6 FINAL CLEANING

- A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water applied by low-pressure spray.
 1. Do not use metal scrapers or brushes.
 2. Do not use acidic or alkaline cleaners.
- B. Clean adjacent nonmasonry surfaces. Use detergent and soft brushes or cloths.
- C. Clean mortar and debris from roof; remove debris from gutters and downspouts. Rinse off roof and flush gutters and downspouts.
- D. Remove masking materials, leaving no residues that could trap dirt.

3.7 FIELD QUALITY CONTROL

- A. Architect's Project Representatives: Architect will assign Project representatives to help carry out Architect's responsibilities at the site, including observing progress and quality of portion of the Work completed. Allow Architect's Project representatives use of lift devices and scaffolding, as needed, to observe progress and quality of portion of the Work completed.
- B. Notify Architect's Project representatives in advance of times when lift devices and scaffolding will be relocated. Do not relocate lift devices and scaffolding until Architect's Project representatives have had reasonable opportunity to make inspections and observations of work areas at lift device or scaffold location.



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3.8 MASONRY WASTE DISPOSAL

- A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property.
- B. Masonry Waste: Remove masonry waste and legally dispose of off Owner's property.

END OF SECTION 04 0120.63



SECTION 04 0120.64 - BRICK MASONRY REPOINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Repointing joints with mortar.

1.3 UNIT PRICES

- A. Work of this Section is affected by unit prices specified in Section Contractor's Supplement Bid Form."
 - 1. Unit prices apply to authorized work.
 - 2. Unit prices apply to additions to and deletions from Work as authorized by Change Orders.

1.4 DEFINITIONS

- A. Low-Pressure Spray: 100 to 400 psi (690 to 2750 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).

1.5 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review methods and procedures related to repointing brick masonry including, but not limited to, the following:
 - a. Verify brick masonry repointing specialist's personnel, equipment, and facilities needed to make progress and avoid delays.
 - b. Materials, material application, sequencing, tolerances, and required clearances.



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- c. Quality-control program.
- d. Coordination with building occupants.

1.6 SEQUENCING AND SCHEDULING

- A. Order sand and gray portland cement for pointing mortar immediately after approval of mockups. Take delivery of and store at Project site enough quantity to complete Project.
- B. Work Sequence: Perform brick masonry repointing work in the following sequence, which includes work specified in this and other Sections:
 - 1. Remove plant growth.
 - 2. Rake out mortar from joints surrounding masonry to be replaced and from joints adjacent to masonry repairs along joints.
 - 3. Repair masonry, including replacing existing masonry with new masonry materials.
 - 4. Rake out mortar from joints to be repointed.
 - 5. Point mortar joints.
 - 6. After repairs and repointing have been completed and cured, perform a final cleaning to remove residues from this work.
- C. As scaffolding is removed, patch anchor holes used to attach scaffolding. Patch holes in masonry units according to Section 040120.63 "Brick Masonry Repair." Patch holes in mortar joints according to "Repointing Masonry" Article.

1.7 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - 2. Include recommendations for product application and use. Include test data substantiating that products comply with requirements.
- B. Shop Drawings:
 - 1. Include plans, elevations, sections, and locations of repointing work on the structure.
 - 2. Show provisions for expansion joints or other sealant joints.
 - 3. Show locations of scaffolding and points of scaffolding in contact with masonry. Include details of each point of contact or anchorage.
- C. Samples for Initial Selection: For the following:



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1. Pointing Mortar: Submit sets of mortar for pointing in the form of sample mortar strips, 6 inches (150 mm) long by 1/2 inch (13 mm) wide, set in aluminum or plastic channels.
 - a. Have each set contain a close color range of at least six samples of different mixes of colored sands and cements that produce a mortar matching existing, cleaned mortar when cured and dry.
 - b. Submit with precise measurements on ingredients, proportions, gradations, and source of colored sands from which each Sample was made.
 2. Sand Type Used for Pointing Mortar: Minimum 8 oz. (240 mL) of each in plastic screw-top jars.
 3. Sealant materials.
 4. Include similar Samples of accessories involving color selection.
- D. Samples for Verification: For the following:
1. Each type, color, and texture of pointing mortar in the form of sample mortar strips, 6 inches (150 mm) long by 1/2 inch (13 mm) wide, set in aluminum or plastic channels.
 - a. Include with each Sample a list of ingredients with proportions of each. Identify sources, both supplier and quarry, of each type of sand and brand names of cementitious materials and pigments if any.
 2. Sealant materials.
 3. Accessories: Each type of accessory and miscellaneous support.

1.8 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For brick masonry repointing specialist, including field supervisors and workers.
- B. Preconstruction Test Reports: For existing masonry units and mortar.
- C. Quality-control program.

1.9 QUALITY ASSURANCE

- A. Brick Masonry Repointing Specialist Qualifications: Engage an experienced brick masonry repointing firm to perform work of this Section. Firm shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance. Experience in only installing masonry is insufficient experience for masonry repointing work.



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1. Field Supervision: Brick masonry repointing specialist firms shall maintain experienced full-time supervisors on Project site during times that brick masonry repointing work is in progress.
- B. Quality-Control Program: Prepare a written quality-control program for this Project to systematically demonstrate the ability of personnel to properly follow methods and use materials and tools without damaging masonry. Include provisions for supervising performance and preventing damage.
- C. Mockups: Prepare mockups of brick masonry repointing to demonstrate aesthetic effects and to set quality standards for materials and execution.
 1. Repointing: Rake out joints in two separate areas, each approximately 36 inches (900 mm) high by 48 inches (1200 mm) wide for each type of repointing required, and repoint one of the areas.
 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver packaged materials to Project site in manufacturer's original and unopened containers, labeled with manufacturer's name and type of products.
- B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- C. Store hydrated lime in manufacturer's original and unopened containers. Discard lime if containers have been damaged or have been opened for more than two days.
- D. Store sand where grading and other required characteristics can be maintained and contamination avoided.

1.11 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit repointing work to be performed according to product manufacturers' written instructions and specified requirements.



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- B. Temperature Limits, General: Repoint mortar joints only when air temperature is between 40 and 90 deg F (4 and 32 deg C) and is predicted to remain so for at least seven days after completion of the Work unless otherwise indicated.
- C. Cold-Weather Requirements: Comply with the following procedures for mortar-joint pointing unless otherwise indicated:
 - 1. When air temperature is below 40 deg F (4 deg C), heat mortar ingredients and existing masonry walls to produce temperatures between 40 and 120 deg F (4 and 49 deg C).
 - 2. When mean daily air temperature is below 40 deg F (4 deg C), provide enclosure and heat to maintain temperatures above 32 deg F (0 deg C) within the enclosure for seven days after pointing.
- D. Hot-Weather Requirements: Protect mortar-joint pointing when temperature and humidity conditions produce excessive evaporation of water from mortar materials. Provide artificial shade and wind breaks, and use cooled materials as required to minimize evaporation. Do not apply mortar to substrates with temperatures of 90 deg F (32 deg C) and above unless otherwise indicated.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Source Limitations: Obtain each type of material for repointing brick masonry (cement, sand, etc.) from single source with resources to provide materials of consistent quality in appearance and physical properties.

2.2 MORTAR MATERIALS

- A. Portland Cement: ASTM C 150/C 150M, Type I or Type II, except Type III may be used for cold-weather construction; white or gray, or both where required for color matching of mortar.
 - 1. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C 114.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Masonry Cement: ASTM C 91/C 91M.



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- D. Mortar Cement: ASTM C 1329/C 1329M.
- E. Mortar Sand: ASTM C 144.
 - 1. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.
 - 2. Color: Natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.
- F. Mortar Pigments: ASTM C 979/C 979M, compounded for use in mortar mixes, and having a record of satisfactory performance in masonry mortars.
- G. Water: Potable.

2.3 ACCESSORY MATERIALS

- A. Sealant Materials:
 - 1. Sealant manufacturer's standard elastomeric sealant(s) of base polymer and characteristics indicated below and according to applicable requirements in Section 079200 "Joint Sealants."
 - a. Type: Single-component, nonsag urethane sealant.
 - 2. Colors: Provide colors of exposed sealants to match colors of mortar adjoining installed sealant unless otherwise indicated.
- B. Joint-Sealant Backing:
 - 1. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
 - 2. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended in writing by sealant manufacturer for preventing sealant from adhering to rigid, inflexible, joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.
- C. Masking Tape: Nonstaining, nonabsorbent material; compatible with mortar, joint primers, sealants, and surfaces adjacent to joints; and that easily comes off entirely, including adhesive.
- D. Other Products: Select materials and methods of use based on the following, subject to approval of a mockup:



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1. Previous effectiveness in performing the work involved.
2. Minimal possibility of damaging exposed surfaces.
3. Consistency of each application.
4. Uniformity of the resulting overall appearance.
5. Do not use products or tools that could leave residue on surfaces.

2.4 MORTAR MIXES

- A. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
1. Mixing Pointing Mortar: Thoroughly mix cementitious materials and sand together before adding any water. Then mix again, adding only enough water to produce a damp, unworkable mix that retains its form when pressed into a ball. Maintain mortar in this dampened condition for 15 to 30 minutes. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within one hour of final mixing; do not retemper or use partially hardened material.
- B. Colored Mortar: Produce mortar of color required by using specified ingredients. Do not alter specified proportions without Architect's approval.
1. Mortar Pigments: Where mortar pigments are indicated, do not add pigment exceeding 10 percent by weight of the cementitious or binder materials, except for carbon black which is limited to 2 percent, unless otherwise demonstrated by a satisfactory history of performance.
- C. Do not use admixtures in mortar unless otherwise indicated.
- D. Mixes: Mix mortar materials in the following proportions:
1. Pointing Mortar for Brick ASTM C 270, Proportion Specification, 1 part portland cement, 1 part lime, and 6 parts sand. Add mortar pigments to produce mortar colors required.
 2. Rebuilding (setting) Mortar: ASTM C 270, Proportion Specification, Type N unless otherwise indicated; with cementitious material limited to portland cement and lime. Add mortar pigments to produce mortar colors required.

PART 3 - EXECUTION

3.1 PROTECTION

- A. Prevent mortar from staining face of surrounding masonry and other surfaces.
 - 1. Cover sills, ledges, and other projecting items to protect them from mortar droppings.
 - 2. Keep wall area wet below pointing work to discourage mortar from adhering.
 - 3. Immediately remove mortar splatters in contact with exposed masonry and other surfaces.
- B. Remove gutters and downspouts and associated hardware adjacent to masonry and store during masonry repointing. Reinstall when repointing is complete.
 - 1. Provide temporary rain drainage during work to direct water away from building.
- C. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants and surrounding buildings from harm resulting from masonry restoration work.
 - 1. If needed or required by Owner erect temporary protective covers, walkways or enclosures at location of pedestrian and vehicular usage or that must be remain in service during restoration work and cleaning.

3.2 MASONRY REPOINTING, GENERAL

- A. Appearance Standard: Repointed surfaces are to have a uniform appearance as viewed from 20 feet (6 m) away by Architect.

3.3 REPOINTING MASONRY

- A. Rake out and repoint joints to the following extent:
 - 1. All joints in areas indicated.
 - 2. Joints indicated as sealant-filled joints.
 - 3. Joints at locations of the following defects:
 - a. Holes and missing mortar.
 - b. Cracks that can be penetrated 1/4 inch (6 mm) or more by a knife blade 0.027 inch (0.7 mm) thick.
 - c. Cracks 1/8 inch (3 mm) or more in width and of any depth.

- d. Hollow-sounding joints when tapped by metal object.
 - e. Deterioration to point that mortar can be easily removed by hand, without tools.
 - f. Joints filled with substances other than mortar.
- B. Do not rake out and repoint joints where not required.
- C. Rake out joints as follows, according to procedures demonstrated in approved mockup:
 - 1. Remove mortar from joints to depth of joint width plus 1/8 inch (3 mm), but not less than 3/4 inch (20 mm) or not less than that required to expose sound, unweathered mortar. Do not remove unsound mortar more than [2 inches (50 mm) deep; consult Architect for direction.
 - 2. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
 - 3. Do not spall edges of masonry units or widen joints. Replace or patch damaged masonry units as directed by Architect.
- D. Notify Architect of unforeseen detrimental conditions including voids in mortar joints, cracks, loose masonry units, rotted wood, rusted metal, and other deteriorated items.
- E. Pointing with Mortar:
 - 1. Rinse joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen joint surfaces before pointing.
 - 2. Apply pointing mortar first to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8 inch (9 mm) until a uniform depth is formed. Fully compact each layer and allow it to become thumbprint hard before applying next layer.
 - 3. After deep areas have been filled to same depth as remaining joints, point joints by placing mortar in layers not greater than 3/8 inch (9 mm). Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing masonry units have worn or rounded edges, slightly recess finished mortar surface below face of masonry to avoid widened joint faces. Take care not to spread mortar beyond joint edges onto exposed masonry surfaces or to featheredge the mortar.
 - 4. When mortar is thumbprint hard, tool joints to match original appearance of joints as demonstrated in approved mockup. Remove excess mortar from edge of joint by brushing.
 - 5. Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours, including weekends and holidays.

6. Hairline cracking within mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.
- F. Pointing with Sealant at Control Joints: Comply with Section 079200 "Joint Sealants." and as follows:
1. After raking out, keep joints dry and free of mortar and debris.
 2. Clean and prepare joint surfaces. Prime joint surfaces unless sealant manufacturer recommends against priming. Do not allow primer to spill or migrate onto adjoining surfaces.
 3. Fill sealant joints with specified joint sealant.
 - a. Install cylindrical sealant backing beneath the sealant. Where space is insufficient for cylindrical sealant backing, install bond-breaker tape.
 - b. Install sealant using only proven installation techniques that ensure that sealant is deposited in a uniform, continuous ribbon, without gaps or air pockets, and with complete wetting of the joint bond surfaces equally on both sides. Fill joint flush with surrounding masonry and matching the contour of adjoining mortar joints.
 - c. Install sealant as recommended in writing by sealant manufacturer but within the following general limitations, measured at the center (thin) section of the bead:
 - 1) Fill joints to a depth equal to joint width, but not more than 1/2 inch (13 mm) deep or less than 1/4 inch (6 mm) deep.
 - d. Tool sealant to form smooth, uniform beads, slightly concave. Remove excess sealant from surfaces adjacent to joint.
 - e. Do not allow sealant to overflow or spill onto adjoining surfaces, or to migrate into the voids of adjoining surfaces, particularly rough textures. Remove excess and spillage of sealant promptly as the work progresses. Clean adjoining surfaces by the means necessary to eliminate evidence of spillage, without damage to adjoining surfaces or finishes, as demonstrated in an approved mockup.
- G. Where repointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.

3.4 FINAL CLEANING

- A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water applied by low-pressure spray.
1. Do not use metal scrapers or brushes.



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2. Do not use acidic or alkaline cleaners.
- B. Clean adjacent nonmasonry surfaces. Use detergent and soft brushes or cloths.
- C. Clean mortar and debris from roof; remove debris from gutters and downspouts. Rinse off roof and flush gutters and downspouts.
- D. Remove masking materials, leaving no residues that could trap dirt.

3.5 FIELD QUALITY CONTROL

- A. Architect's Project Representatives: Architect will assign Project representatives to help carry out Architect's responsibilities at the site, including observing progress and quality of portion of the Work completed. Allow Architect's Project representatives use of lift devices and scaffolding, as needed, to observe progress and quality of portion of the Work completed.
- B. Notify Architect's Project representatives in advance of times when lift devices and scaffolding will be relocated. Do not relocate lift devices and scaffolding until Architect's Project representatives have had reasonable opportunity to make inspections and observations of work areas at lift device or scaffold location.

END OF SECTION 04 0120.64



SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1 Rooftop equipment bases and support curbs.
 - 2 Wood blocking, cants, and nailers

1.3 DEFINITIONS

- A. Boards or Strips: Lumber of less than 2 inches nominal (38 mm actual) size in least dimension.
- B. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) size or greater but less than 5 inches nominal (114 mm actual) size in least dimension.
- C. Exposed Framing: Framing not concealed by other construction.
- D. OSB: Oriented strand board.
- E. Lumber grading agencies and the abbreviations used to reference them, include the following:
 - 1 NeLMA; Northeastern Lumber Manufacturers' Association.
 - 2 NLGA; National Lumber Grades Authority.
 - 3 SPIB; The Southern Pine Inspection Bureau.
 - 4 WCLIB; West Cost Lumber Inspection Bureau.
 - 5 WWPA; Western Wood Products Association.



1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1 Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2 For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
- B. Fastener Patterns:
 - 1 For new edge blocking to existing substrate and new edge blocking to new edge blocking.

1.5 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
- B. Evaluation Reports: For the following, from ICC-ES:
 - 1 Wood-preservative-treated wood.
 - 2 Power-driven fasteners.
 - 3 Post-installed anchors.
 - 4 Metal framing anchors.

1.6 QUALITY ASSURANCE

- A. Source Limitations for Wood Products: Obtain each type of wood product, fasteners and related accessories through one source.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect wood products from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.



PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber for General Roofing Use: Unless otherwise indicated, provide "standard grade light framing lumber of any species.
- B. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1 Factory mark each piece of lumber with grade stamp of grading agency.
 - 2 Dress lumber, S4S, unless otherwise indicated.
- C. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal (38-mm actual) thickness or less; 19 percent for more than 2-inch nominal (38-mm actual) thickness unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: Obtain preservative-treated lumber comply with AWWPA U1; Category UC4a.
 - 1 Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
 - 2 Above Ground Wood Treatment: Pressure treat with waterborne preservatives to minimum retention of 0.25 pcf.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
 - 1 Wood cants, nailers, curbs, equipment support bases, blocking, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 - 2 Wood blocking, cants and nailers and similar concealed members in contact with masonry or concrete.



2.3 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1 Blocking for Area Separation Joints
 - 2 Blocking for Roof Expansion Joints.
 - 3 Blocking at Roof Perimeter Edges and Top of Parapet Walls
- B. Dimension Lumber Items: Construction or No. 2 grade lumber of any species with a 19 percent maximum moisture content.
- C. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.4 PLYWOOD PANELS

- A. Miscellaneous Concealed Plywood: Plywood, DOC PS 1, Exterior, C-C Plugged Exposure 1, in thickness indicated or, if not indicated, not less than 3/4-inch (19-mm) nominal thickness.

2.5 FASTENERS

- A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture.
 - 1 Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M or Type 304 stainless steel.
- B. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
 - 1 Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2 (ASTM F 738M and ASTM F 836M, Grade A1 or A4).
- C. Wood Screws: ASME B18.6.1.



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- D. Lag Bolts: ASME B18.2.1 (ASME B18.2.3.8M).
- E. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 566M, property class 4.6) with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.

2.6 MISCELLANEOUS MATERIALS

- A. Water-Repellent Preservative: NWWDA-tested and -accepted formulation containing 3-iodo-2-propynyl butyl carbamate, combined with an insecticide containing chlorpyrifos as its active ingredient.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking and similar supports to comply with requirements for attaching other construction.
- B. Install plywood panels by fastening to additional plywood panels.
- C. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- D. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1 Use inorganic boron for items that are continuously protected from liquid water.
 - 2 Use copper naphthenate for items not continuously protected from liquid water.
- E. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install perimeter wood nailers true and level, with outside edge of wood nailers aligned flush with outmost wall face. Comply with recommendations of the National Roofing Contractors Association (NRCA) "Roofing and Waterproofing Manual" and the SPRI "Wind Design Guide for use with Low Slope Roofing". Coordinate locations with other work involved.

- B. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- C. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
- D. Wood nailers installed at building corners (corners defined as the distance from the building corner that is 10% of minimum building width or 40% of the building height at the eaves, whichever is smaller, but in no case less than 3 feet) and perimeter sections of the roof edge located between the corners; are to be installed and secured so that the basic attachment for the corners is sufficient enough to resist at least 200 pounds per foot of force and the perimeter attachment is sufficient enough to resist at least 100 pounds per foot force. Blocking at all edge conditions shall be a minimum thickness of 1.5 inches (top of blocking is to be either flush with or above the adjacent roof insulation) and be of sufficient width to extend at least $\frac{3}{4}$ " minimum beyond nailing flange of roof edge metal.
- E. Nailers and edge blocking are to be secured to masonry, steel or additional wood as follows:
 - 1. Masonry: When bottom nailer is in direct contact with masonry, it is to be secured by corrosion resistant anchor bolts, countersunk and attached to wood nailer with washers and nuts. Anchor bolts should be a minimum $\frac{1}{2}$ inch in diameter and spaced 4 feet c/c. If wood nailer is less than 6 inches wide, anchor bolts should be staggered to avoid splitting wood nailer. Anchor bolts should be bent 90 degrees at the base or have heads that prevent rotation and slipping out. When securing nailers to hollow block masonry at roof lines, fill cores and voids in top course full of concrete. Embed anchor bolts in light aggregate concrete minimum 12 inches for heavy aggregate minimum 8 inches.
 - 2. Steel Deck: When bottom of wood nailers are to be attached to steel decks, a steel angle needs to be installed. The wood nailer is attached to the steel angle with a corrosion resistant anchor bolts, minimum $\frac{1}{2}$ inch in diameter and spaced 4 feet apart c/c max., that are secured to steel angle. When steel deck is 22 gauge the angle should be attached to the deck with fasteners capable of providing a 360 pound pull out rating.
 - 3. Wood Blocking: When additional wood blocking is to be stacked onto new or existing wood blocking, the securement of the new or existing blocking being anchored to needs to be verified for proper attachment. Attachment of additional wood blocking onto properly secured wood blocking should be with corrosion resistant screws having a pull-out resistance of at least 360 pounds per fastener. Screws are to be staggered and spaced 6 inches max. c/c.
- F. Select Fasteners of size that will not fully penetrate members other side. Make tight connections between members and install without splitting wood, don't countersink nail heads unless otherwise indicated.



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3.3 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet or wet enough that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000



SECTION 070150.19 - PREPARATION FOR RE-ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Full tear-off of entire roof of roof areas indicated on drawings.
 - 2. Removal of base flashings.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for use of the premises and phasing requirements.
 - 2. Section 015000 "Temporary Facilities and Controls" for temporary construction and environmental-protection measures for reroofing preparation.

1.3 UNIT PRICES

- A. See Contractors Supplemental Bid Form for a list of Unit Prices.

1.4 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.
- B. Full Roof Tear-Off: Removal of existing roofing system from deck or concrete fill if concrete fill is left in place.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.



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1. Include certificate that Installer is licensed to perform asbestos removal.
- B. Fastener pull-out test report.
- C. Photographs: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces that might be misconstrued as having been damaged by reroofing operations. Submit before Work begins. See Specification Section 013233 Photographic Documentation.
- D. Landfill Records: Indicate receipt and acceptance of demolished roofing materials and hazardous wastes, such as asbestos-containing materials, by a landfill facility licensed to accept them.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Licensed to perform asbestos removal in the state or jurisdiction where Project is located.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning roofing removal. Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Pre-Construction Conference: Conduct Pre-construction conference at Project site or sites if multiple locations prior to start of Work.
 1. Meet with Owner; Architect; roofing system manufacturer's representative; roofing Installer, including project manager, superintendent, and foreman; and installers whose work interfaces with or affects reroofing.
 2. Review methods and procedures related to roofing system tear-off and replacement, including, but not limited to, the following:
 - a. Reroofing preparation, including roofing system manufacturer's written instructions.
 - b. Temporary protection requirements for existing roofing system components that are to remain.
 - c. Existing roof drains and roof drainage during each stage of reroofing, and roof-drain plugging and plug removal.
 - d. Construction schedule and availability of materials, Installer's personnel, equipment, and facilities needed to avoid delays.
 - e. Existing roof deck conditions requiring notification of Architect.
 - f. Condition and acceptance of existing roof deck and base flashing substrate for reuse.
 - g. Structural loading limitations of roof deck during reroofing.
 - h. Base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that affect reroofing.
 - i. HVAC shutdown and sealing of air intakes.



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- j. Asbestos removal and discovery of asbestos-containing materials.
- k. Governing regulations and requirements for insurance and certificates if applicable.
- l. Existing conditions that may require notification of Architect before proceeding.

1.7 FIELD CONDITIONS

- A. Existing Roofing System: See drawings for information regarding the type of existing roof system.
- B. Owner will occupy portions of building immediately below reroofing area. Conduct reroofing so Owner's operations are not disrupted. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.
 - 1. Coordinate work activities daily with Owner so Owner can place protective dust and water-leakage covers over sensitive equipment and furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below work area.
 - 2. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below affected area. Verify that occupants below work area have been evacuated before proceeding with work over impaired deck area.
- C. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.
- D. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- E. Conditions existing at time of inspection for bidding are maintained by Owner as far as practical.
 - 1. A roof moisture survey of existing roofing system is available for Contractor's reference.
 - 2. The results of an analysis of test cores from existing roofing system are available for Contractor's reference.
 - 3. Construction Drawings list information regarding existing roofing system are provided for Contractor's convenience and information only and are not a warranty of existing conditions. They are intended to supplement rather than serve in lieu of Contractor's own investigations.
- F. Limit construction loads on roof and uniformly distributed loads.
- G. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing system or building.



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1. Remove only as much roofing in one day as can be made watertight in the same day.
- H. Hazardous Materials: A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
 1. Hazardous material remediation is specified elsewhere in the Contract Documents.
 2. Do not disturb hazardous materials or items suspected of containing hazardous materials except according to procedures specified elsewhere in the Contract Documents.
 3. Coordinate reroofing preparation with hazardous material remediation to prevent water from entering existing roofing system or building.

1.8 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during reroofing, by methods and with materials so as not to void existing roofing system warranty. Notify warrantor before proceeding.
 1. Notify warrantor of existing roofing system on completion of reroofing, and obtain documentation verifying that existing roofing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

PART 2 - PRODUCTS

2.1 TEMPORARY PROTECTION MATERIALS

- A. Expanded Polystyrene (EPS) Insulation: ASTM C 578.
- B. Plywood: DOC PS1, Grade CD Exposure 1.
- C. OSB: DOC PS2, Exposure 1.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Coordinate with Owner to shut down any or all rooftop units in the vicinity of the roof work. Cover air intake louvers before proceeding with re-roofing work that could affect indoor air quality or activate smoke detectors in ductwork.

- B. Test existing roof drains to verify that they are not blocked or restricted. Immediately notify Architect of any blockages or restrictions.
- C. Protect existing roofing system that is not to be reroofed if used to access area to be re-roofed.
 - 1. Loosely lay 1 ½ inch minimum thick, expanded polystyrene (EPS) insulation over existing roofing in areas indicated. Loosely lay 15/32-inch (12-mm) plywood or OSB panels over EPS. Extend EPS past edges of plywood or OSB panels a minimum of 1 inch (25 mm).
 - 2. Limit traffic and material storage to areas of existing roofing that have been protected.
 - 3. Maintain temporary protection and leave in place until replacement roofing has been completed. Remove temporary protection on completion of reroofing.
- D. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
- E. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.
 - 1. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new roofing system, provide alternative drainage method to remove water and eliminate ponding. Do not permit water to enter into or under existing roofing system components that are to remain.

3.2 ROOF TEAR-OFF

- A. General: Notify Owner each day of extent of roof tear-off proposed for that day.
- B. Full Roof Tear-Off: Remove existing roofing and other roofing system components down to the deck or concrete fill.
 - 1. Remove all existing vapor barriers, base sheets, roof insulation and roof membranes.
 - 2. Re-use existing wood blocking, curbs, and nailers. Replace any damaged or deteriorated with new.
 - 3. Bitumen and felts that are firmly bonded to concrete decks are permitted to remain if felts are dry. Remove unadhered bitumen, unadhered felts, and wet felts.
 - 4. Remove fasteners from deck or cut fasteners off slightly above deck surface.

3.3 DECK PREPARATION

- A. Inspect deck after tear-off of roofing system.
- B. Verify that no standing water is visible in metal deck flutes.
- C. Inspect metal deck for rusting and/or deterioration.
 - 1. If metal deck has visible surface rust but still structurally sound, clean and treat area with a rust inhibitor primer.
 - 2. If metal deck is found to be rusted and lack structural integrity:
 - a. for small areas - clean and treat area with rust inhibitor primer and overlay with area with a piece of new metal deck that matches existing metal deck profile.
 - b. for large areas – remove deteriorated metal deck section completely and replace with new full sheet of metal deck.
- D. If broken or loose fasteners that secure deck panels to
- E. Verify that concrete substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263 or by pouring 1 pint (0.5 L) of hot roofing asphalt on deck at start of each day's work and at start of each roof area or plane. Do not proceed with roofing work if moisture condenses under plastic sheet or if asphalt test sample foams or can be easily and cleanly stripped after cooling.
- F. If broken or loose fasteners that secure deck panels to one another or to structure are observed, or if deck appears or feels inadequately attached, immediately notify Architect. Do not proceed with installation until directed by Architect.
- G. If deck surface is unsuitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify Architect. Do not proceed with installation until directed by Architect.
- H. On all concrete decks, Contractor is to inspect the existing deck to ensure true and level prior to installing any new insulation. If any deflection is found within the deck surface that will have impact on the over final drainage of the new roof system, immediately notify Architect. **DO NOT PROCEED WITH INSTALLING NEW INSULATION UNTIL THE DEFLECTED AREA HAS BEEN IN-FILLED TO INSURE PROPER DRAINAGE.**
- I. Upon completion of roof installation, contractor is to conduct a water test to ensure proper drainage. Ponding water after 48 hours will need to be corrected by contractor either via re-roof or additional approved measures offered by the Roofing System



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Manufacturer, before the Owner will approval final payment to Contractor. **All ponding water repairs will be at Contractor's cost.**

3.4 BASE FLASHING REMOVAL

- A. Remove all existing base flashings for parapets, building walls, curbs and penetrations. Clean substrates of contaminants, such as asphalt, sheet materials, dirt, and debris.
- B. Do not damage metal counterflashings that are to remain. Replace metal counterflashings damaged during removal with counterflashings of same metal, weight or thickness, and finish specified in Section 076200 "Sheet Metal Flashing and Trim."
- C. Inspect parapet sheathing, wood blocking, curbs, and nailers for deterioration and damage. If parapet sheathing, wood blocking, curbs, or nailers have deteriorated, immediately notify Architect.
- D. Inspect parapet or wall masonry for damage or deterioration. If masonry has deterioration, immediately notify Architect.

3.5 FASTENER PULL-OUT TESTING

- A. Perform fastener pull-out tests according to SPRI FX-1, and submit test report to Architect and roofing manufacturer before installing new roofing system.
 - 1. Obtain Roofing manufacturer's approval to proceed with specified fastening pattern. Roofing manufacturer may furnish revised fastening pattern commensurate with pull-out test results.

3.6 DISPOSAL

- A. Collect demolished materials and place in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
 - 1. Storage or sale of demolished items or materials on-site is not permitted.
- B. Transport and legally dispose of demolished materials off Owner's property.

END OF SECTION 070150.19



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**SECTION 075213 - ATACTIC-POLYPROPYLENE (APP) MODIFIED BITUMINOUS
MEMBRANE ROOFING**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Atactic-polypropylene (APP)-modified bituminous membrane roofing.
 - 2. Roof insulation.
 - 3. Flashings and Strippings
- B. Related Requirements:
 - 1. Section 061000 "Rough Carpentry" for wood nailers and blocking.
 - 2. Section 076200 "Sheet Metal Flashing and Trim" for metal roof flashings and counterflashings.
 - 3. Section 077200 "Roof Accessories" for miscellaneous roof accessories.
 - 4. Section 079200 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" apply to Work of this Section.
- B. Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," before multiplication by a safety factor.
- C. Factored Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," after multiplication by a safety factor.

1.4 PRE-CONSTRUCTION MEETING

- A. Pre-construction Roofing Conference: Conduct conference at Project site or sites if multiple locations are part of the scope.
 - 1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 - 3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
 - 5. Review structural loading limitations of roof deck during and after roofing.
 - 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
 - 7. Review governing regulations and requirements for insurance and certificates if applicable.
 - 8. Review temporary protection requirements for roofing system during and after installation.
 - 9. Review roof observation and repair procedures after roofing installation.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work, including:
 - 1. Base flashings and membrane terminations.
 - 2. Tapered insulation, including slopes.
 - 3. Crickets, saddles, and tapered edge strips, including slopes.
 - 4. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.

1.6 INFORMATIONAL SUBMITTALS

- A. Installer Certificates: Provide written and signed letter from roofing system manufacturer on manufacturer's letterhead, certifying that Installer is approved, authorized, or licensed by manufacturer to install specified roofing system, prior to this project bidding and is to list the date that said Installer was approved or licensed by the



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manufacturer to install specified roofing system. Letter must also state the contractors, current manufacturer's ratings and or qualifications as stated in section 1.6. Letter is to also identify the Project Name, the Contractors Name, and Contractors Address. **This letter is to be submitted with the Contractors pre-contractual submittals.**

- B. **Manufacturer Certificates:** Provide written and signed letter by roofing manufacturer certifying on their letterhead that they have reviewed the drawings and that the specified and designed roofing system complies with their requirements for a warranted system for the warranty period specified. Letter should also identify the Project Name, the firm that prepared the documents, their commission number, the date of the documents, the warranty period. **This letter is to be submitted with the Contractors pre-contractual submittals.**
- C. **Verification of Existing Roof Top Equipment:** The Contractor shall in writing verify that all existing roof top equipment, including but not limited to, power ventilators, gravity vents, HVAC units, drains, plumbing vents, etc., are in working order prior to re-roofing operations. Once roofing work has started, it will be the Contractors responsibility to ensure that all existing roof top equipment remains operational. Failure to provided written verification prior to the start of work will be the contractor's responsibility to replace or repair back to original working condition.
- D. **Product Test Reports:** For components of roofing system, for tests performed by manufacturer and witnessed by a qualified testing agency.
- E. **Manufacturer's Inspection Reports:** Provide a copy of manufacturer's final inspection report of completed roof installation.

1.7 CLOSEOUT SUBMITTALS

- A. **Maintenance Data:** For roofing system to include in maintenance manuals.

1.8 QUALITY ASSURANCE

- A. **Install Pre-qualification Requirements:** Contractors have been pre-qualified for this project via a pre-qualification. Contractors wanting to submit bids for the specified work are to be pre-qualified. A contractor can submit an AIA A305 Contractor Qualification Statement to the Architect for the architect's review for pre-qualification and Owner's approval. Architect's review for pre-qualification cannot be assured to be completed within the time for bidding for this project.
- B. **Installer Qualifications:** A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's standard NDL warranty and that have been pre-qualified.



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The following contractors have been pre-qualified to submit a bid:

1. AAA Roofing
 2. Hinshaw Roofing and Sheet
 3. Korellis Roofing and Sheet Metal
 4. Midland Engineering
 5. R. Adams Roofing
 6. Smither Roofing
 7. South Central Roofing
 8. Nu-Tec Roofing
- C. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E 548.
- D. Source Limitations: Obtain components for roofing system from or approved by roofing system manufacturer. Obtain primary membrane sheets and secondary materials for roofing system from only one manufacturer and source. Provide secondary materials not available from primary manufacturer from sources recommended and approved by said manufacturer.
- E. Protection: Site where roof operations are preformed, this includes material storage on the ground, staging and dump areas and roof area, shall be maintained in a safe condition and OSHA and other safety guidelines shall be observed for the contractor's personnel, Owner's personnel and the general public.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof materials and insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location and protect from exposure to precipitation. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation. All roofing materials are to be completely covered and protected while in storage, both on the roof and ground during roofing operations to keep dry at all times.



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1. Roofing material, when stored outdoors shall be stored so that material is a minimum 4 inches above the ground or roof surface. Material is to be 100% covered with tarpaulins while being stored. Manufacturer's plastic shrink wrap is not an approved covering and needs to be sliced to allow product to breath before covering with tarpaulins.
- D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.10 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.
 1. Install new roofing on substrates (approved insulation and decks) that are free of any form of moisture.
 2. Install new roofing when wind speeds allow for the new roof system to be installed properly.

1.11 WARRANTY

- A. Manufacturer's Warranty: Manufacturer's standard full system warranty, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks.
 1. Warranty Period: 20 years NDL from date of Substantial Completion.
- C. Contractors Warranty: Submit roofing contractor's warranty, typical in to the Midwest Roofing Contractors Association Contractor's Warranty, for the following warranty period:
 1. Warranty Period: 2 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.8 MANUFACTURERS

- A. Available Manufacturer's: Subject to compliance with requirements, manufacturer's specified are:

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1. Performance Roof System, Inc

2.9 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and base flashings shall remain watertight.
- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.
- C. Roofing System Design: Provide a roofing system that is has been tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to ASCE 7 and to resist the factored design uplift pressure calculated according to SPRI's "Wind load Design Guide for Fully Adhered and Mechanically Adhered Fastened Roofing Systems".
- D. FM Global Listing: Roofing, base flashings, and component materials shall comply with requirements in FM Global 4450 or FM Global 4470 as part of a roofing system, and shall be listed in FM Global' "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Global markings.
 1. Fire/Windstorm Classification: Class 1A-90
 2. Hail-Resistance Rating: MH.
- E. Solar Reflectance Index: Not less than 78 when calculated according to ASTM E 1980, based on testing identical products by a qualified testing agency.
- F. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class A or Class B; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

2.10 ROOFING SHEET MATERIALS

- A. Sheathing Paper: Red-rosin type, minimum 3 lb./100 sq. ft. (0.16 kg/sq. m).
- B. Base Sheet: ASTM D 4601, Type I or Type II, non-perforated, asphalt-impregnated and -coated, glass-fiber sheet, dusted with fine mineral surfacing on both sides.
- C. Roofing Membrane Base Ply Sheet: ASTM D 6222/D 6222M, Grade S, Type I, APP-modified asphalt sheet (reinforced with fiberglass); smooth surfaced; suitable for application method specified.



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1. Products subject to compliance with requirements:
 - a. Performance; "Derbibase Ultra".
- D. Granule-Surfaced Roofing Cap Sheet: ASTM D 6223/D 6223M, Grade G, Type II, APP-modified asphalt sheet, reinforced polyester fabric; granule surfaced; suitable for application method specified, and as follows:
 1. Granule Color: White.
 2. Products subject to compliance with requirements:
 - a. Performance; "DerbiColor P FR".

2.11 BASE FLASHING SHEET MATERIALS

- A. Smooth-Surfaced Flashing Sheet: ASTM D 6222/D 6222M, Grade S, Type I, APP-modified asphalt sheet (reinforced with polyester fabric); smooth surfaced; suitable for application method specified.
 1. Products subject to compliance with requirements:
 - a. Performance; "Derbibase Ultra".
- B. Granule-Surfaced Flashing Sheet: ASTM D 6223/D 6223M, Grade G, Type II, APP-modified asphalt sheet reinforced of polyester fabric; granule surfaced; suitable for application method specified, and as follows:
 1. Granule Color: White.
 2. Products subject to compliance with requirements:
 - a. Performance; "DerbiColor P FR".
- C. Liquid Applied Flashings: Provide manufacturer's standard two part, UV- stable high performance seamless and self- terminating cold fluid applied polyester reinforced solvent free polyurethane flashing system.
 1. Products subjected to compliance with requirements:
 - a. Performance; "Derbiflash".

2.12 AUXILIARY ROOFING MATERIALS

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



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- B. Glass-Fiber Fabric: Woven glass-fiber cloth, treated with asphalt, complying with ASTM D 1668, Type I.
- C. Asphalt Primer: ASTM D 41/D 41M.
- D. Cold-Applied Adhesive: Roofing system manufacturer's standard asphalt-based, one- or two-part, asbestos-free, cold-applied adhesive specially formulated for compatibility and use with roofing membrane and base flashings.
 - 1. Products subject to compliance with requirements:
 - a. Performance; "Permastic".
- E. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required by roofing system manufacturer for application.
- F. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roofing components to substrate; tested by manufacturer for required pullout strength, and acceptable to roofing system manufacturer.
- G. Roofing Granules: Ceramic-coated roofing granules, No. 11 screen size with 100 percent passing No. 8 (2.36-mm) sieve and 98 percent of mass retained on No. 40 (0.425-mm) sieve, color to match roofing.
- H. Miscellaneous Accessories: Provide those recommended by roofing system manufacturer.

2.13 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured or approved by roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated and that produce FM Global-approved roof insulation. Roof insulation boards shall not be produced with or contain any of the United States Environmental Protection Agency (USEPA) regulated chlorofluorocarbon (CFC) compounds listed in the Montreal Protocol of the United Nations Environmental Program.
- B. Polyisocyanurate Board Insulation: ASTM C 1289-95, Type II, Class 1, Grade 2, rigid closed cell foam core, integrally fiber reinforced felt facer laminated on both major surfaces and FM class 1 for 1-90 windstorm and UL class A and meeting the following requirements:
 - 1. Board Size: 4 foot x 8 foot for standard flat stock
 - 2. Board Thickness: As specified on drawings.
 - 3. Thermal Resistance: Aged R-value of 5.41 per inch.



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4. Board Edges: Squared
 5. Manufacturers:
 - a. Performance; "Derbiboard".
- C. Tapered Insulation: Provide factory-tapered polyisocyanurate insulation boards, ASTM C 1289-95, Type II, Class 1, Grade 2, rigid closed cell foam core, integrally fiber reinforced felt facer laminated on both major surfaces and FM class 1 for 1-90 windstorm and UL class A and meeting the following requirements:
1. Board Size: 4 foot x 4 foot for tapered insulation
 2. Board Thickness: As specified on drawings.
 3. Board Slope: As indicated on drawings
 4. Thermal Resistance: Aged R-value of 5.41 per inch.
 5. Board Edges: Squared
 6. Manufacturers:
 - a. Performance; "Derbiboard".
- D. Recover Board Insulation: Provide roof insulation as an overlay insulation for polyisocyanurate foam board roof insulation.
1. High Density Cover Board Insulation: Provide manufacturer's standard high density, closed-cell, polyisocyanurate insulation boards, ASTM C 1289, Type II, Class 2, Grade 3, with an inorganic coated glass facer on both side and meeting the following properties:
 - a. Board Size: 4 foot x 4 foot
 - b. Board Thickness: 1/2 inch
 - c. Thermal Resistance: Aged R-value of 2.0 per inch
 - d. Board Edges: Squared
 - e. Compressive Strength: 25 PSI
- E. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.14 INSULATION ACCESSORIES

- A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with roofing.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening base roof insulation and taper roof insulation to substrate, and acceptable to roofing system manufacturer.



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- C. Cold Adhesive for Roof Insulation Application: Single-component, non-flammable, spray dispensed, moisture curing low rise polyurethane foam adhesive specially formulated for adhering roof insulation and acceptable to roofing system manufacturer.
 - 1. Products subject to compliance with requirements:
 - a. Insta-foam Products; "Insta-stik".
 - b. OMG; "Olybond".
- D. Insulation Cant Strips: ASTM C 728, molded perlite, 3 ½ inch x 3 ½ inch x 45 degree cant strip to provide smooth transitions at 90 degree roof terminations.
- E. Wood Nailer Strips: Comply with requirements in Section 061000 "Rough Carpentry."
- F. Tapered Insulation Edge Strips: Provide molded 12 inch wide closed cell polyisocyanurate foam core with fiberglass facers to provide smooth transitions where wood blocking is higher than insulation along perimeters and at saddle transitions. Provide tapered edge panels that start with a 0 inch edge and taper to 1 ½ inch.
 - 1. Products subject to compliance with requirements:
 - a. Atlas Roofing Corporation; "Gemini Tapered Edge Strips"
- G. Filler Foam: Provide single-component, nonflammable; spray dispensed, adhesive polyurethane foam to be used as filler around obstructions and penetrations to mitigate both air and moisture infiltration.
 - 1. Products subject to compliance with requirements:
 - a. Hilti Construction Chemicals, Inc.; "Hilti CF 124"

PART 3 - EXECUTION

3.8 EXAMINATION

- A. Examine substrates, areas, and conditions to receive Modified Bituminous Membrane roofing system and associated roof work for compliance with the following requirements and other conditions affecting performance of roofing system. Do not proceed with roofing until all unsatisfactory conditions have been corrected in a manner acceptable to Installer, Manufacturer and Architect.
 - 1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.

2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 3. Verify that surface plane flatness and fastening of steel roof deck.
 4. Verify that deck is securely fastened with no projecting fasteners and with no adjacent units in excess of 1/16 inch (1.6 mm) out of plane relative to adjoining deck.
 5. Verify that steel deck is dry and free of moisture and dew. Do not install insulation over metal deck that is wet or has standing water in flutes.
 6. Verify that concrete substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
 7. On all concrete decks, Contractor is to inspect the existing deck to ensure true and level prior to installing any new insulation. If any deflection is found within the deck surface that will have impact on the over final drainage of the new roof system, immediately notify Architect. **DO NOT PROCEED WITH INSTALLING NEW INSULATION UNTIL THE DEFLECTED AREA HAS BEEN IN-FILL TO INSURE PROPER DRAINAGE.**
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.9 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Prime surface of concrete deck with asphalt primer at a rate of 3/4 gal./100 sq. ft. (0.3 L/sq. m), and allow primer to dry.

3.10 INSTALLATION, GENERAL

- A. Comply with roofing system manufacturer's written instructions.
- B. Substrate-Joint Penetrations: Prevent roofing asphalt and adhesives from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.
- C. Cutoffs: Upon completion of daily roof work, protect exposed edges of completed work and to make building watertight, provide temporary covering of a single ply of modified bitumen membrane set in cold adhesive. Remove all temporary cutoffs at start of next day's work.



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3.11 INSULATION INSTALLATION

- A. Comply with roofing system manufacturer's written instructions and recommendations for handling and installing roof insulation to substrate.
- B. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- C. Clean and sweep surface of deck to remove excess dust and debris. Power blower may be used in lieu of sweeping for large areas.
- D. Insulation Cant Strips: Install and secure preformed 45-degree insulation cant strips at junctures of roofing system with vertical surfaces or angle changes greater than 45 degrees.
- E. Install tapered insulation under area of roofing to conform to layout and slopes indicated on drawings.
- F. Install insulation with long joints of insulation in a continuous straight line, with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch (6 mm) with insulation. Lay insulation boards with edges in contact with adjacent insulation boards, don't force insulation board to fit.
 - 1. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
- G. Install insulation under area of roofing to achieve required thickness. Where overall base insulation thickness installed is of two or more layers, install additional layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.
 - 1. On steel decks mechanically attached all base insulation.
 - 2. On Concrete decks adhere base insulation with cold adhesive. When installing base insulation with cold adhesive to substrate, install all additional layers in cold adhesive use weight buckets until insulation is permanently set.
- H. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- I. Install tapered edge strips at perimeter edges of roof where insulation doesn't terminate flush with top of wood blocking and at insulation saddle transitions to provide a smooth and flush transition.
- J. Cold Adhesive Adhered Insulation: Install each layer of insulation and secure to deck using sprayed adhesive specifically designed for securing insulation to deck and to additional insulation.

1. Spray adhesive onto substrate in continuous beads, widths of $\frac{3}{4}$ inch to 1 inch thick and spacing per manufacturer's requirements to meet specified Windstorm Resistance Classifications
 2. Set each layer of insulation into sprayed adhesive immediately after spraying adhesive.
 3. After setting insulation in cold adhesive and to ensure continuous contact is made during set-up period, use weighted buckets immediately after setting insulation in cold adhesive, staggered over insulation boards until insulation is permanently set in cold adhesive. Use weighted buckets that will not damage insulation.
 4. Fasten insulation according to requirements in FM Global's "Approval Guide" for specified Windstorm Resistance Classification.
 5. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.
- K. Mechanically Fastened Insulation: Install each layer of insulation and secure to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.
1. Fasten insulation according to requirements in FM Global's "Approval Guide" for specified Windstorm Resistance Classification.
 2. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.
- L. Install recover board insulation over base insulation in cold adhesive with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction. Loosely butt cover boards together.
1. Use weighted buckets until recover board insulation is permanently set.

3.12 ROOFING INSTALLATION, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions and applicable recommendations in ARMA/NRCA's "Quality Control Guidelines for the Application of Polymer Modified Bitumen Roofing."
- B. Start installation of roofing in presence of manufacturer's technical personnel.
- C. Coordinate installation of roofing system so insulation and other components of the roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.
 1. Provide tie-offs at end of day's work to cover exposed roofing sheets and insulation with a course of coated felt set in roofing cement or hot roofing asphalt, with joints and edges sealed.
 2. Complete terminations and base flashings, and provide temporary seals to prevent water from entering completed sections of roofing system.



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3. Remove and discard temporary seals before beginning work on adjoining roofing.

3.13 APP-MODIFIED BITUMINOUS MEMBRANE INSTALLATION

- A. Install modified bituminous roofing base ply and cap sheet according to roofing manufacturer's written instructions, starting at low point of roofing system. Extend roofing sheets over and terminate beyond cants, installing as follows:
 1. Unroll roofing membrane sheets and allow them to relax for a minimum time period require by manufacturer.
 2. Adhere to substrate in cold-applied adhesive at rate required by roofing manufacturer.
 3. Extend both base ply and cap sheet to top edge of cant strip.
 4. Apply both base ply and cap sheet to lay smooth, free of wrinkles, fish mouths or tears.
 5. Ensure both plies are bonded fully to substrate.
 6. Don't not walk on or store equipment or materials on newly laid sheets until membrane is fully bonded and cold adhesive has set-up.
 7. For granulated cap sheets, completely install base ply sheet before installing cap sheet. After granulated cap sheet has been installed minimize foot traffic to keep finish cap sheet clean. Don't store equipment or materials on completed cap sheet. When doing detail work on finish cap sheet, contractor's employees are to take care and protect finish cap sheet from scuff marks and damage to finish cap sheet.
- B. Laps: Accurately align roofing sheets, without stretching, and maintain uniform side and end laps. Stagger end laps. Completely bond and seal laps, leaving no voids.
 1. Repair tears and voids in laps and lapped seams not completely sealed.
 2. Both base ply and cap sheet laps are to be sealed with Hot Air Welders - No Open flames will be permitted.
 3. Control bead out at laps to a maximum ¼ inch.
 4. Apply roofing granules to cover exuded bead at laps while bead is hot.
- C. Install roofing sheets so side and end laps shed water.

3.14 FLASHING AND STRIPPING INSTALLATION

- A. Install base flashing over cant strips and other sloping and vertical surfaces, at roof edges, and at penetrations through roof; secure to substrates according to roofing system manufacturer's written instructions and as follows:
 1. Prime substrates with asphalt primer if required by roofing system manufacturer.
 2. First Ply Flashing Sheet: First ply of base flashing is to be installed over the roofing membrane base ply prior to the installation of the cap sheet and extend



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- minimum 4 inches beyond the base of the cant onto roofing membrane base ply and extend above cant to specified height. Adhered flashing sheet in cold adhesive at rate required by roofing manufacturer.
3. Second Ply Flashing Sheet: after the cap sheet has been installed, install the second ply flashing onto the cap sheet and extend a minimum 8 inches beyond base of cant onto roofing membrane cap sheet and extend above top of cant to specified height. Adhere flashing sheet in cold adhesive at a rate required by roofing manufacturer.
 4. Mechanically fasten top of base flashing as indicated on drawings.
- B. Install Liquid Membrane base flashing over vertical surfaces and at penetrations through roof, according to roofing system manufacturer's written instructions and as follows:
1. Extend both base ply and cap ply of modified bituminous membrane flush with base of roof penetration curb.
 2. Apply a bead of mastic along edge of modified bituminous membrane where it terminates into roof penetration curb.
 3. Prime roof penetration curb with manufacturer's primer
 4. Install a layer of 4 inch wide polyester fleece, centered along transition between top of modified bituminous membrane and roof penetration curb. Center polyester fleece so that minimum 2 inches extends onto modified bituminous membrane. Provide additional polyester fleece at all outside corners at both the base of the curb and top of the curb as per manufacturer's requirements.
 5. Provide an angle bead of resin fill along both the top and bottom of polyester fleece at transition.
 6. Apply a 1 layer of liquid membrane flashing resin, assure full contact of substrate and resin saturation of fleece. Extend liquid membrane resin minimum 12 inches onto modified bituminous membrane cap ply.
 7. Provide an angle bead of resin fill long liquid membrane terminations.
- C. Install roofing membrane stripping where metal flanges and edgings are set on roofing according to roofing system manufacturer's written instructions.
1. Extend base ply membrane to perimeter edge and turn down minimum 2 inches.
 2. Set metal nailing flanges in a bed of roof cement and secure to base ply membrane.
 3. Prime metal nailing flanges and allow primer to set-up.
 4. Install one layer of base ply stripping on to primed nailing flange and extend onto base ply roof membrane, extend a minimum 8 inches from back edge of nailing flange.
 5. Install roof membrane cap sheet over completed stripping.
- D. Roof Drains: Fill clamping ring base with a heavy coating of roof manufacturer's approve mastic. Hold back base insulation from roof drain as indicated on drawings and provide tapered insulation to provide a sump around roof drains. Extend base ply roofing membrane into roof drain. Set 30-by-30-inch- (760-by-760-mm-) primed (both sides) lead flashing in bed of asphaltic adhesive on completed base ply roofing



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membrane. Strip off edges of lead flashing with 10 inch roofing base ply-sheet stripping, and extend stripping a minimum of 4 inches (100 mm) onto lead flashing and 6 inches (150 mm) beyond edge of lead flashing onto base ply roofing membrane. Stripping is not to extend pass the top edge of insulation sump. Install roofing membrane cap sheet over stripping and lead flashing. Clamp roofing membrane plies and lead flashing into roof-drain clamping ring.

3.15 FIELD QUALITY

- A. Testing Agency: Owner will engage a qualified testing agency to inspect substrate conditions, surface preparation, membrane application, flashings, protection, and drainage components, and to furnish reports to Architect.
- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
 - 1. Notify Architect and Owner 48 hours in advance of date and time of inspection.
- C. Remove, repair and replace components of roofing system where test results or inspections indicate they don't comply with specified requirements.
- D. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.
- E. Upon completion of roof installation, contractor is to conduct a water test to ensure proper drainage. Ponding water after 24 hours will need to be corrected by contractor either via re-roof or additional approved measures offered by the Roofing System Manufacturer, before the Owner will approval final payment to Contractor. **All ponding water repairs will be at Contractor's cost.**

3.16 PROTECTING AND CLEANING

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

END OF SECTION 07 5213



SECTION 075216 - STYRENE-BUTADIENE-STYRENE (SBS) MODIFIED BITUMINOUS MEMBRANE ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Styrene-butadiene-styrene (SBS)-modified bituminous membrane roofing.
 - 2. Roof insulation.
 - 3. Flashings and Strippings
- B. Related Requirements:
 - 1. Section 06100 "Rough Carpentry" for wood nailers and blocking.
 - 2. Section 076200 "Sheet Metal Flashing and Trim" for metal roof flashings and counterflashings.
 - 3. Section 077200 "Roof Accessories" for miscellaneous roof accessories.
 - 4. Section 079200 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.
- B. Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," before multiplication by a safety factor.
- C. Factored Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," after multiplication by a safety factor.

1.4 PRE-CONSTRUCTION MEETING

- A. Pre-construction Roofing Conference: Before starting roof deck construction, conduct conference at Project site or sites if multiple locations are part of the scope.
 - 1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 - 3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review deck substrate requirements for conditions and finishes, including flatness and fastening.
 - 5. Review structural loading limitations of roof deck during and after roofing.
 - 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
 - 7. Review governing regulations and requirements for insurance and certificates if applicable.
 - 8. Review temporary protection requirements for roofing system during and after installation.
 - 9. Review roof observation and repair procedures after roofing installation.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work, including:
 - 1. Base flashings and membrane terminations.
 - 2. Tapered insulation, including slopes.
 - 3. Crickets, saddles, and tapered edge strips, including slopes.
 - 4. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.

1.6 INFORMATIONAL SUBMITTALS

- A. Installer Certificates: Provide written and signed letter from roofing system manufacturer on manufacturer's letterhead, certifying that Installer is approved, authorized, or licensed by manufacturer to install specified roofing system, prior to this project bidding and is to list the date that said Installer was approved,



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authorized, or licensed by the manufacturer to install specified roofing system. Letter must also state the contractors, current manufacturer's ratings and or qualifications as stated in section 1.6. Letter is to also identify the Project Name, the Contractors Name, and Contractors Address. **This letter is to be submitted with the Contractors pre-contractual submittals.**

- B. Manufacturer Certificates: Provide written and signed letter by roofing manufacturer certifying on their letterhead that they have reviewed the drawings and that the specified and designed roofing system complies with their requirements for a warranted system for the warranty period specified. Letter should also identify the Project Name, the firm that prepared the documents, their commission number, the date of the documents, the warranty period. **This letter is to be submitted with the Contractors pre-contractual submittals.**
- C. Verification of Existing Roof Top Equipment: The Contractor shall in writing verify that all existing roof top equipment, including but not limited to, power ventilators, gravity vents, HVAC units, drains, plumbing vents, etc., are in working order prior to re-roofing operations. Once roofing working has started, it will be the Contractors responsibility to ensure that all existing roof top equipment remains operational. Failure to provided written verification prior to the start of work will be the contractor's responsibility to replace or repair back to original working condition.
- D. Product Test Reports: For components of membrane roofing system, for tests performed by manufacturer and witnessed by a qualified testing agency.
- E. Manufacturer's Inspection Reports: Provide a copy of manufacturer's final inspection report of completed roof installation.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.

1.8 QUALITY ASSURANCE

- A. Install Pre-qualification Requirements: Contractors have been pre-qualified for this project via a pre-qualification. Contractors wanting to submit bids for the specified work are to be pre-qualified. A contractor can submit an AIA A305 Contractor Qualification Statement to the Architect for the architect's review for pre-qualification and Owner's approval. Architect's review for pre-qualification cannot be assured to be completed within the time for bidding for this project.
- B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's standard NDL warranty and that have been pre-qualified.



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The following contractors have been pre-qualified and approved by the Owner to submit a bid:

1. AAA Roofing
 2. Hinshaw Roofing and Sheet
 3. Korellis Roofing and Sheet Metal
 4. Midland Engineering
 5. R. Adams Roofing
 6. Smither Roofing
 7. South Central Roofing
 8. Nu-Tec Roofing
- C. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E 548.
- D. Source Limitations: Obtain components for roofing system from or approved by roofing system manufacturer. Obtain primary membrane sheets and secondary materials for roofing system from only one manufacturer and source. Provide secondary materials not available from primary manufacturer from sources recommended and approved by said manufacturer.
- E. Protection: Site where roof operations are preformed, this includes material storage on the ground, staging and dump areas and roof area, shall be maintained in a safe condition and OSHA and other safety guidelines shall be observed for the contractor's personnel, Owner's personnel and the general public.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof materials and insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location and protect from exposure to precipitation. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation. All roofing materials are to be completely covered and protected while in storage, both on the roof and ground during roofing operations to keep dry at all times.



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1. Roofing material, when stored outdoors shall be stored so that material is a minimum 4 inches above the ground or roof surface. Material is to be 100% covered with tarpaulins while being stored. Manufacturer's plastic shrink wrap is not an approved covering and needs to be sliced to allow product to breath before covering with tarpaulins.
- D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.10 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.
 1. Install new roofing on substrates (approved insulation and decks) that are free of any form of moisture.
 2. Install new roofing when wind speeds allow for the new roof system to be installed properly.

1.11 WARRANTY

- A. Manufacturer's Warranty: Manufacturer's standard full system warranty, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks.
 1. Warranty Period: 20 years NDL from date of Substantial Completion.
- B. Contractors Warranty: Submit roofing contractor's warranty, typical in to the Midwest Roofing Contractors Association Contractor's Warranty, for the following warranty period:
 1. Warranty Period: 2 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Available Manufacturer's: Subject to compliance with requirements, manufacturer's specified are:
 1. Siplast, Inc.



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2. Soprema
3. Johns-Manville

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and base flashings shall remain watertight.
- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.
- C. Roofing System Design: Provide a roofing system that is has been tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to ASCE 7 and to resist the factored design uplift pressure calculated according to SPRI's "Wind load Design Guide for Fully Adhered and Mechanically Adhered Fastened Roofing Systems".
- D. FM Global Listing: Roofing, base flashings, and component materials shall comply with requirements in FM Global 4450 or FM Global 4470 as part of a roofing system, and shall be listed in FM Global's "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Global markings.
 1. Fire/Windstorm Classification: Class 1A-90.
 2. Hail-Resistance Rating: MH.
- E. Solar Reflectance Index: Not less than 78 when calculated according to ASTM E 1980, based on testing identical products by a qualified testing agency.
- F. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class A or Class B; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

2.3 ROOFING SHEET MATERIALS

- A. Sheathing Paper: Red-rosin type, minimum 3 lb/100 sq. ft. (0.16 kg/sq. m).
- B. Base Sheet: ASTM D 4601, Type I or Type II, non-perforated, asphalt-impregnated and -coated, glass-fiber sheet, dusted with fine mineral surfacing on both sides.
- C. Roofing Membrane Base Ply Sheet: ASTM D 6163, Grade S, Type I or II, SBS-modified asphalt sheet (reinforced with glass fibers; smooth surfaced; suitable for application method specified).



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1. Products subject to compliance with requirements:
 - a. Siplast; "Paradiene 20".
 - b. Soprema; Elastophene HR 3.0".
 - c. Johns-Manville; "Dynabase".
- D. Granule-Surfaced Roofing Cap Sheet: ASTM D 6163, Grade G, Type I or II, SBS-modified asphalt sheet (reinforced with glass fibers); granule surfaced; suitable for application method specified, and as follows:
 1. Granule Color: White.
 2. Products subject to compliance with requirements:
 - a. Siplast; "Paradiene 30 FR".
 - b. Soprema; "Elastophene HR FR GR".
 - c. Johns-Manville; "DynaKap FR".

2.4 BASE FLASHING SHEET MATERIALS

- A. Smooth Surface Flashing Sheet: ASTM D 6163, Grade S, Type I or II, SBS-modified asphalt sheet (reinforced with glass fibers); smooth surfaced; suitable for application method specified.
 1. Products subject to compliance with requirements:
 - a. Siplast; "Paradiene 20".
 - b. Soprema; Elastophene HR 3.0".
 - c. Johns-Manville; "Dynlastic 180".
- B. Granule-Surfaced Flashing Sheet: ASTM D 6162, Grade G, Type I or II, SBS-modified asphalt sheet, coated reinforced with glass fibers or combination of fiberglass scrim/polyester composite mat; granule surfaced; suitable for application method specified, and as follows:
 1. Granule Color: White.
 2. Products subject to compliance with requirements:
 - a. Siplast; "Parafor 30".
 - b. Soprema; "Elastophene HR FR GR".
 - c. Johns-Manville; "DynaKap FR".
- C. Liquid Applied Flashings: Provide manufacturer's standard two part, UV- stable high performance seamless and self- terminating cold fluid applied polyester reinforced solvent free polyurethane flashing system. Products subjected to compliance with requirements:
 1. Products subject to compliance with requirements:



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- a. Siplast; "Parapro 123".
- b. Soprema; "Alsan Flashing".

2.5 AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing.
- B. Glass-Fiber Fabric: Woven glass-fiber cloth, treated with asphalt, complying with ASTM D 1668, Type I
- C. Asphalt Primer: ASTM D 41/D 41M.
- D. Cold-Applied Adhesive: Roofing system manufacturer's standard asphalt-based, one- or two-part, asbestos-free, cold-applied adhesive specially formulated for compatibility and use with roofing membrane and base flashings.
 - 1. Products subject to compliance with requirements:
 - a. Siplast; "PA-311 R Adhesive" for membrane adhesive.
 - b. Siplast; "PA-828" for base flashing adhesive.
 - c. Soprema; "Colply EF Adhesive".
 - d. Johns-Manville; MBR Cold Application Adhesive".
- E. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required by roofing system manufacturer for application.
- F. Elastomeric Sealant: Moisture-curing, non-slump, gun grade sealant to be used where finish membrane terminates at perimeter edges and at metal flashing penetrations.
 - 1. Products subject to compliance with requirements:
 - a. Siplast; "PS-715 Elastomeric Sealant".
- G. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roofing components to substrate; tested by manufacturer for required pullout strength, and acceptable to roofing system manufacturer.
- H. Roofing Granules: Ceramic-coated roofing granules, No. 11 screen size with 100 percent passing No. 8 (2.36-mm) sieve and 98 percent of mass retained on No. 40 (0.425-mm) sieve, color to match roofing.
- I. Miscellaneous Accessories: Provide those recommended by roofing system manufacturer.



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2.6 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured or approved by roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated and that produce FM Global-approved roof insulation. Roof insulation boards shall not be produced with or contain any of the United States Environmental Protection Agency (USEPA) regulated chlorofluorocarbon (CFC) compounds listed in the Montreal Protocol of the United Nations Environmental Program.
- B. Polyisocyanurate Board Insulation: ASTM C 1289-95, Type II, Class 1, Grade 2, rigid closed cell foam core, integrally fiber reinforced felt facer laminated on both major surfaces and FM class 1 for 1-90 windstorm and UL class A and meeting the following requirements:
 - 1. Board Size: 4 foot x 8 foot for standard flat stock
 - 2. Board Thickness: As specified on drawings.
 - 3. Thermal Resistance: Aged R-value of 5.41 per inch.
 - 4. Board Edges: Squared
- C. Tapered Insulation: Provide factory-tapered polyisocyanurate insulation boards, ASTM C 1289-95, Type II, Class 1, Grade 2, rigid closed cell foam core, integrally fiber reinforced felt facer laminated on both major surfaces and FM class 1 for 1-90 windstorm and UL class A and meeting the following requirements:
 - 1. Board Size: 4 foot x 4 foot for tapered insulation
 - 2. Board Thickness: As specified on drawings.
 - 3. Board Slope: As indicated on drawings
 - 4. Thermal Resistance: Aged R-value of 5.41 per inch.
 - 5. Board Edges: Squared
- D. Recover Board Insulation: Provide roof insulation as an overlay insulation for polyisocyanurate foam board roof insulation.
 - 1. High Density Cover Board Insulation: Provide manufacturer's standard high density, closed-cell, polyisocyanurate insulation boards, ASTM C 1289, Type II, Class 2, Grade 3, with an inorganic coated glass facer on both side and meeting the following properties:
 - a. Board Size: 4 foot x 4 foot
 - b. Board Thickness: 1/2 inch
 - c. Thermal Resistance: Aged R-value of 2.0 per inch
 - d. Board Edges: Squared
 - e. Compressive Strength: 25 PSI



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

2.7 INSULATION ACCESSORIES

- A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with roofing.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.
- C. Cold Adhesive for Roof Insulation Application: Single-component, non-flammable, spray dispensed, moisture curing low rise polyurethane foam adhesive specially formulated for adhering roof insulation and acceptable to roofing system manufacturer.

- 1. Products subject to compliance with requirements:

- a. Siplast; "Para-stick"
- b. Insta-foam Products; "Insta-stik".
- c. OMG; "Olybond".
- d. Soprema; "Colply EF Adhesive".
- e. Johns-Manville; JM Green Two-Part Urethane Insulation Adhesive".

- D. Insulation Cant Strips: ASTM C 728, molded perlite, 3 ½ inch x 3 ½ inch x 45 degree cant strip to provide smooth transitions at 90 degree roof terminations.
- E. Wood Nailer Strips: Comply with requirements in Section 061000 "Rough Carpentry.
- F. Tapered Insulation Edge Strips: Provide molded 12 inch wide closed cell polyisocyanurate foam core with fiberglass facers to provide smooth transitions where wood blocking is higher than insulation along perimeters and at saddle transitions. Provide tapered edge panels that start with a 0 inch edge and taper to 1 ½ inch.

- 1. Products subject to compliance with requirements:

- a. Atlas Roofing Corporation; "Gemini Tapered Edge Strips

- G. Filler Foam: Provide single-component, nonflammable; spray dispensed, adhesive polyurethane foam to be used as filler around obstructions and penetrations to mitigate both air and moisture infiltration.

- 1. Products subject to compliance with requirements:

- a. Hilti Construction Chemicals, Inc.; "Hilti CF 124"



PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions to receive Modified Bituminous Membrane roofing system and associated roof work for compliance with the following requirements and other conditions affecting performance of roofing system. Do not proceed with roofing until all unsatisfactory conditions have been corrected in a manner acceptable to Installer, Manufacturer and Architect.
1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
 2. Verify that cants, wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 3. Verify the surface plane flatness and fastening of steel roof deck.
 4. Verify that deck is securely fastened with no projecting fasteners and with no adjacent units in excess of 1/16 inch (1.6 mm) out of plane relative to adjoining deck.
 5. Verify that steel deck is dry and free of moisture and dew. Do not install insulation over metal deck that is wet or has standing water in flutes.
 6. Verify that concrete substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
 7. On all concrete decks, Contractor is to inspect the existing deck to ensure true and level prior to installing any new insulation. If any deflection is found within the deck surface that will have impact on the over final drainage of the new roof system, immediately notify Architect. **DO NOT PROCEED WITH INSTALLING NEW INSULATION UNTIL THE DEFLECTED AREA HAS BEEN IN-FILLED TO INSURE PROPER DRAINAGE.**
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Prime surface of concrete deck with asphalt primer at a rate of 3/4 gal./100 sq. ft. (0.3 L/sq. m), and allow primer to dry.



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3.3 INSTALLATION, GENERAL

- A. Comply with roofing system manufacturer's written instructions.
- B. Substrate-Joint Penetrations: Prevent roofing asphalt and adhesives from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.
- C. Cutoffs: Upon completion of daily roof work, protect exposed edges of completed work and to make building watertight, provide temporary covering of a single ply of modified bitumen membrane set in cold adhesive. Remove all temporary cutoffs at start of next day's work.

3.4 INSULATION INSTALLATION

- A. Comply with roofing system manufacturer's written instructions and recommendations for handling and installing roof insulation to substrate.
- B. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- C. Clean and sweep surface of deck to remove excess dust and debris. Use power blower maybe used in lieu of sweeping for large areas.
- D. Nailer Strips: Mechanically fasten 4-inch nominal- (89-mm actual-) width wood nailer strips of same thickness as insulation perpendicular to sloped roof deck at the following spacing:
 - 1. 16 feet (4.88 m) apart for roof slopes greater than 1 inch per 12 inches (1:12) but less than 3 inches per 12 inches (3:12).
 - 2. 48 inches (1220 mm) apart for roof slopes greater than 3 inches per 12 inches (3:12).
- E. Install one lapped base-sheet course and mechanically fasten to substrate according to roofing system manufacturer's written instructions.
- F. Insulation Cant Strips: Install and secure preformed 45-degree insulation cant strips at junctures of roofing system with vertical surfaces or angle changes greater than 45 degrees.
- G. Install tapered insulation under area of roofing to conform to layout and slopes indicated on drawings.
- H. Install insulation with long joints of insulation in a continuous straight line, with end joints staggered between rows, abutting edges and ends between boards. Fill gaps

exceeding 1/4 inch (6 mm) with insulation. Lay insulation boards with edges in contact with adjacent insulation boards, don't force insulation board to fit.

1. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
- I. Install insulation under area of roofing to achieve required thickness. Where overall base insulation thickness installed is of two or more layers, install additional layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.
 1. On steel decks mechanically attached all base insulation, including taper insulation.
 2. When installing base insulation with cold adhesive to substrate, install all additional layers in in cold adhesive using weighted buckets until insulation is permanently set.
- J. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- K. Install tapered edge strips at perimeter edges of roof where insulation doesn't terminate flush with top of wood blocking and at insulation saddle transitions to provide a smooth and flush transition.
- L. Cold Adhesive Adhered Insulation: Install each layer of insulation and secure to deck using sprayed adhesive specifically designed for securing insulation to deck and to additional insulation.
 1. Spray adhesive onto substrate in continuous beads, widths of 3/4 inch to 1 inch thick and spacing per manufacturer's requirements to meet specified Windstorm Resistance Classifications
 2. Set each layer of insulation into sprayed adhesive immediately after spraying adhesive.
 3. After setting insulation in cold adhesive and to ensure continuous contact is made during set-up period, use a weighted buckets immediately after setting insulation in cold adhesive and stagger over insulation boards until insulation is permanently set in cold adhesive. Use weighted buckets that will not damage insulation.
 4. Fasten insulation according to requirements in FM Global's "Approval Guide" for specified Windstorm Resistance Classification.
 5. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.
- M. Mechanically Fastened Insulation: Install each layer of insulation and secure to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.
 1. Fasten insulation according to requirements in FM Global's "Approval Guide" for specified Windstorm Resistance Classification.

2. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.
- N. Install recover board insulation over base insulation in cold adhesive with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction. Loosely butt cover boards together.
1. Use weighted buckets until recover board insulation is permanently set.

3.5 ROOFING INSTALLATION, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions and applicable recommendations in ARMA/NRCA's "Quality Control Guidelines for the Application of Polymer Modified Bitumen Roofing."
- B. Start installation of roofing in presence of manufacturer's technical personnel.
- C. Coordinate installation of roofing system so insulation and other components of the roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.
 1. Provide tie-offs at end of each day's work to cover exposed roofing sheets and insulation with a course of coated felt set in roofing cement or hot roofing asphalt, with joints and edges sealed.
 2. Complete terminations and base flashings, and provide temporary seals to prevent water from entering completed sections of roofing system.
 3. Remove and discard temporary seals before beginning work on adjoining roofing.

3.6 SBS-MODIFIED BITUMINOUS MEMBRANE INSTALLATION

- A. Install modified bituminous roofing base ply and cap sheet according to roofing manufacturer's written instructions, starting at low point of roofing system. Extend roofing sheets over and terminate beyond cants, installing as follows:
 1. Unroll roofing membrane sheets and allow them to relax for a minimum time period required by manufacturer.
 2. Adhere to substrate in cold-applied adhesive at rate required by roofing manufacturer.
 3. Extend both base ply and cap sheet to top edge of cant strip.
 4. Apply both base ply and cap sheet to lay smooth, free of wrinkles, fish mouths or tears.
 5. Ensure both plies are bonded fully to substrate.
 6. Do not walk on or store equipment or materials on newly laid sheets until membrane is fully bonded and cold adhesive has set-up.

7. For granulated cap sheets, completely install base ply sheet before installing cap sheet. After granulated cap sheet has been installed minimize foot traffic to keep finish cap sheet clean. Don't store equipment or materials on completed cap sheet. When doing detail work on finish cap sheet, contractor's employees are to take care and protect finish cap sheet from scuff marks and damage to finish cap sheet.
- B. Laps: Accurately align roofing sheets, without stretching, and maintain uniform side and end laps. Stagger end laps. Completely bond and seal laps, leaving no voids.
 1. Repair tears and voids in laps and lapped seams not completely sealed.
 2. Both base ply and cap sheet laps are to be sealed with Hot Air Welders – No Open Flames.
 3. Control bead out at laps to a maximum ¼ inch.
 4. Apply roofing granules to cover exuded bead at laps while bead is hot.
- C. Install roofing sheets so side and end laps shed water.

3.7 FLASHING AND STRIPPING INSTALLATION

- A. Install base flashing over cant strips and other sloping and vertical surfaces, at roof edges, and at penetrations through roof; secure to substrates according to roofing system manufacturer's written instructions and as follows:
 1. Prime substrates with asphalt primer if required by roofing system manufacturer.
 2. First Ply Flashing Sheet: First ply of base flashing is to be installed over the roofing membrane base ply prior to the installation of the cap sheet and extend a minimum 4 inches beyond the base of the cant onto roofing membrane base ply and extend above cant to specified height. Adhered flashing sheet in cold adhesive at rate required by roofing manufacturer.
 3. Second Ply Flashing Sheet: after the cap sheet has been installed, install the second ply flashing onto the cap sheet and extend a minimum 8 inches beyond base of cant onto roofing membrane cap sheet and extend above top of cant to specified height. Adhered flashing sheet in cold adhesive at a rate required by roofing manufacturer.
 4. Mechanically fasten top of base flashing as indicated on drawings.
- B. Install Liquid Membrane base flashing over vertical surfaces and at penetrations through roof, according to roofing system manufacturer's written instructions and as follows:
 1. Extend both base ply and cap ply of modified bituminous membrane flush with base of roof penetration curb.
 2. Apply a bead of mastic along edge of modified bituminous membrane where it terminates into roof penetration curb.
 3. Primer roof penetration curb with manufacturer's primer.

4. Install a layer of 4 inch wide polyester fleece, centered along transition between top of modified bituminous membrane and roof penetration curb. Center polyester fleece so that minimum 2 inches extends onto modified bituminous membrane. Provide additional polyester fleece at all outside corners at both the base of the curb and top of the curb as per manufacturer's requirements.
 5. Provide an angle bead of resin fill along both the top and bottom of polyester fleece at transition.
 6. Apply a 1 layer of liquid membrane flashing resin, assure full contact of substrate and resin saturation of fleece. Extend liquid membrane resin minimum 12 inches onto modified bituminous membrane cap ply.
 7. Provide an angle bead of resin fill long liquid membrane terminations.
- C. Install roofing membrane stripping where metal flanges and edgings are set on roofing according to roofing system manufacturer's written instructions.
1. Extend base ply membrane to perimeter edge and turn down minimum 2 inches.
 2. Set metal nailing flanges in a bed of roof cement and secure to base ply membrane.
 3. Prime metal nailing flanges and allow primer to set-up.
 4. Install one layer of base ply stripping on to primed nailing flange and extend onto base ply roof membrane, extend a minimum 8 inches from back edge of nailing flange.
 5. Install roof membrane cap sheet over completed stripping.
 6. Provide a bead of roofing manufacturer's mastic were finish membrane plies terminate at metal edges.
- D. Roof Drains: Fill clamping ring base with a heavy coating of roof manufacturer's approve mastic. Hold back base insulation from roof drain as indicated on drawings and provide tapered insulation to provide a sump around roof drains. Extend base ply roofing membrane into roof drain. Set 30-by-30-inch- (760-by-760-mm-) primed (both sides) lead flashing in bed of asphaltic adhesive on completed base ply roofing membrane. Strip of edges of lead flashing with 10 inch roofing base ply-sheet stripping, and extend stripping a minimum of 4 inches (100 mm) onto lead flashing and 6 inches (150 mm) beyond edge of lead flashing onto base ply roofing membrane. Stripping is not to extend pass the top edge of insulation sump. Install roofing membrane cap sheet over stripping and lead flashing. Clamp roofing membrane plies and lead flashing into roof-drain clamping ring.

3.8 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to inspect substrate conditions, surface preparation, membrane application, flashings, protection, and drainage components, and to furnish reports to Architect.
- B. Test Cuts: Remove test specimens to evaluate problems observed during quality-assurance inspections of roofing membrane as follows:



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1. Determine approximate quantities of components within roofing membrane according to ASTM D 3617.
 2. Examine test specimens for interply voids according to ASTM D 3617 and to comply with criteria established in Appendix 3 of ARMA/NRCA's "Quality Control Guidelines for the Application of Polymer Modified Bitumen Roofing."
 3. Repair areas where test cuts were made according to roofing system manufacturer's written instructions.
- C. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
1. Notify Architect and Owner 48 hours in advance of date and time of inspection.
- D. Remove, repair and replace components of roofing system where test results or inspections indicate they don't comply with specified requirements.
- E. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.
- F. Upon completion of roof installation, contractor is to conduct a water test to ensure proper drainage. Ponding water after 24 hours will need to be corrected by contractor either via re-roof or additional approved measures offered by the Roofing System Manufacturer, before the Owner will approval final payment to Contractor. **All ponding water repairs will be at Contractor's cost.**

3.9 PROTECTING AND CLEANING

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

END OF SECTION 075216



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SECTION 07 5423 - THERMOPLASTIC MEMBRANE ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Adhered membrane roofing system.
 - 2. Roof insulation.
 - 3. Flashings and Strippings
 - 4. Miscellaneous Roof Accessories
- B. Related Sections include the following:
 - 1. Division 6 Section "Rough Carpentry" for wood nailers, curbs, and blocking.
 - 2. Division 7 Section "Sheet Metal Flashing and Trim" for metal roof penetration flashings, flashings, and counterflashings.

1.3 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.
- B. Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," before multiplication by a safety factor.
- C. Factored Design Uplift Pressure: The uplift pressure, calculated according to procedures in SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," after multiplication by a safety factor.

1.4 PERFORMANCE REQUIREMENTS

- A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing membrane manufacturer based on testing and field experience.
- C. Roofing System Design: Provide a membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems."
- D. FMG Listing: Provide roofing membrane, base flashings, and component materials that comply with requirements in FMG 4450 and FMG 4470 as part of a membrane roofing system and that are listed in FMG's "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FMG markings.
 - 1. Fire/Windstorm Classification: Class 1-90.
 - 2. Hail Resistance: MH.
- E. Underwriters Laboratories (UL):
 - 1. UL 790 for resistance to external fire spread for a Class "A" or "B" assembly.
- F. Perform work in accordance with NRCA Roofing and Waterproofing Manual and Manufacturer's written instructions.

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other Work.
 - 1. Base flashings and membrane terminations.
 - 2. Insulation fastening patterns.
- C. Samples for Verification: For the following products:



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1. 12-by-12-inch (300-by-300-mm) square of sheet roofing, of color specified, including T-shaped side and end lap seam.
 2. 12-by-12-inch (300-by-300-mm) square of roof insulation.
- D. Installer Certificates: Provide written and signed letter from roofing system manufacturer on manufacturer's letterhead, certifying that Installer is approved, authorized or licensed to install specified roofing system, prior to this project bidding and is to list the date that said Installer was approved, authorized, or licensed by the manufacturer to install specified roofing system. Letter is to also identify the Project Name, the Contractors Name, and Contractors Address. **This letter is to be submitted with the Contractors submittals.**
- E. Manufacturer Certificates: Provide written and signed letter by roofing manufacturer certifying on their letterhead that they have reviewed the drawings and that the specified and designed roofing system complies with their requirements for a warranted system for the warranty period specified. Letter should also identify the Project Name, the firm that prepared the documents, their commission number, the date of the documents, the warranty period. **This letter is to be submitted with the Contractors submittals.**
- F. Qualification Data: For Installer and manufacturer.
- G. Verification of Existing Roof Top Equipment: The Contractor shall in writing verify that all existing roof top equipment, including but not limited to, power ventilators, gravity vents, HVAC units, drains, plumbing vents, etc., are in working order prior to re-roofing operations. Once roofing working has started, it will be the Contractors responsibility to ensure that all existing roof top equipment remains operational. Failure to provided written verification prior to the start of work will be the contractor's responsibility to replace or repair back to original working condition.
- H. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of roofing system.
- I. Research/Evaluation Reports: For components of membrane roofing system.
- J. Maintenance Data: For roofing system to include in maintenance manuals.
- K. Warranties: Special warranties specified in this Section.
- L. Inspection Report: Copy of roofing system manufacturer's inspection report of completed roofing installation.

1.6 QUALITY ASSURANCE



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- A. Install Pre-qualification Requirements: Contractors have been pre-qualified for this project via a pre-qualification. Contractors wanting to submit bids for the specified work are to be pre-qualified. A contractor can submit an AIA A305 Contractor Qualification Statement to the Architect for the architect's review for pre-qualification and Owner's approval. Architect's review for pre-qualification cannot be assured to be completed within the time for bidding for this project.
- B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's standard NDL warranty and that have been pre-qualified.

The following contractors have been pre-qualified and approved by the Owner to submit a bid:

- 1. AAA Roofing
 - 2. Hinshaw Roofing and Sheet
 - 3. Korellis Roofing and Sheet Metal
 - 4. Midland Engineering
 - 5. R. Adams Roofing
 - 6. Smither Roofing
- C. Manufacturer Qualifications: A qualified manufacturer that has UL listing and FMG approval for membrane roofing system identical to that used for this Project.
- D. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E 548.
- E. Source Limitations: Obtain components for roofing system from or approved by roofing system manufacturer. Obtain primary membrane sheets and secondary materials for roofing system from only one manufacturer and source. Provide secondary materials not available from primary manufacturer from sources recommended and approved by said manufacturer.
- F. Fire-Test-Response Characteristics: Provide membrane roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL, FMG, or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.
 - 1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and roof slopes indicated.
 - 2. Fire-Resistance Ratings: ASTM E 119, for fire-resistance-rated roof assemblies of which roofing system is a part.
- G. Protection: Site where roof operations are performed, this includes material storage on the ground, staging and dump areas and roof area, shall be maintained in a safe condition and OSHA and other safety guidelines shall be observed for the contractor's personnel, Owner's personnel and the general public.

- H. Preinstallation Conference: Conduct conference at Project site. Comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to roofing system including, but not limited to, the following:
1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing including installers of roof accessories and roof-mounted equipment.
 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
 5. Review structural loading limitations of roof deck during and after roofing.
 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
 7. Review governing regulations and requirements for insurance and certificates if applicable.
 8. Review temporary protection requirements for roofing system during and after installation.
 9. Review roof observation and repair procedures after roofing installation.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof material and insulation from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store materials so they are not exposed to precipitation. All roofing materials are to be completely covered and protected while in storage, both on the roof and ground, during roofing operations to keep dry at all times.



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1. Roofing material, when stored outdoors shall be stored so that material is a minimum 4 inches above the ground or roof surface. Material is to be 100% covered with tarpaulins while being stored. Manufacturer's plastic shrink wrap is not an approved covering and needs to be sliced to allow product to breath before covering with tarpaulins.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.8 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.
 1. Install new roofing on substrates (approved insulation and decks) that are free of any form of moisture.
 2. Install new roofing when wind speeds allow for the new roof system to be installed properly.

1.9 WARRANTY

- A. Manufacturer's Warranty: Manufacturer's standard full system warranty, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks.
 1. Warranty Period: 20 years NDL from date of Substantial Completion.
- B. Contractors Warranty: Submit roofing contractor's warranty, typical in to the Midwest Roofing Contractors Association Contractor's Warranty, for the following warranty period:
 1. Warranty Period: 2 years from date of Substantial Completion.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, the following:
 1. Seaman Corporation; "FiberTite"



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2. Sika; "Sarnafil"

2.2 PVC ROOFING MEMBRANE

- A. PVC Roofing Membrane: ASTM D4434, Type II, Grade I, fiberglass reinforced, with a 9 oz factory applied fleece felt backing, as follows:

1. Sika; "Sarnafil G410-15 feltback".
 - a. Thickness: 60 mils (1.5 mm), nominal.
 - b. Exposed Face Color:
 - 1) White
 - c. Tensile Strength min.: 1600 psi
 - d. Elongation at Break, min. %: 270% / 250%
 - e. Seam Strength min.lbf: 80
 - f. Tear Resistance, min. lbf: 14
 - g. Low Temperature Bend, -40° F: Pass
 - h. Retention of Properties after Heat Aging
 - 1) Tensile Strength, min. % of original: 95
 - 2) Elongation, min. % of original: 90

2.3 KEE ROOFING MEMBRANE

- A. KEE Roofing Membrane: ASTM D6754-02, denier weft polyester knit reinforced, with a 6 oz factory applied fleece felt backing, as follows:

1. Seaman Corporation; "FiberTite 8540-SM".
 - a. Thickness: 45 mils (1.14 mm), nominal.
 - b. Exposed Face Color:
 - 1) White
 - c. Tensile Strength min.: 8500 psi
 - d. Elongation at Break, min. %: 18
 - e. Seam Strength min.lbf: > fabric break
 - f. Tear Resistance, min. lbf: 100
 - g. Low Temperature Bend, -40° F: Pass
 - h. Retention of Properties after Heat Aging
 - 1) Tensile Strength, min. % of original: 90
 - 2) Elongation, min. % of original: 90

2.4 AUXILIARY MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.
 - 1. Liquid-type auxiliary materials shall meet VOC limits of authorities having jurisdiction.
- B. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness, and color as PVC or KEE sheet membrane.
- C. Bonding Adhesive: Manufacturer's standard solvent-based bonding adhesive for membrane, and solvent-based bonding adhesive for base flashings.
 - 1. FiberTite; "FTR 290"
 - 2. Sarnafil; "Sarnacol 2170"
- D. Slip Sheet: Manufacturer's recommended slip sheet of non-woven polyester or polypropylene, when flashing substrates are rough or incompatible with flashing membrane.
- E. Base Sheet: ASTM D 4601, Type I, nonperforated, asphalt-impregnated and -coated, glass-fiber sheet, dusted with fine mineral surfacing on both sides.
- F.. Metal Termination Bars: Manufacturer's standard predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.
- G. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane flashings to substrate, and acceptable to membrane roofing system manufacturer.
- D. Fasteners for Base Sheets: Pre-assembled fastener and plate with a precision formed tube and high tensile, wire-locking staple designed for fastening base sheets to cementitious wood fiber (tectum) substrates, tested by manufacturer for required pullout strength and acceptable to roofing system manufacturer.
- I. Sealant: Manufacturer's standard single-component, gun-grade, multi-purpose sealant, used for terminations, drain seals and metal flashings.
 - 1. FiberTite; "FTR 101"
 - 2. Sarnafil; "Sarnafil Multi-Purpose Sealant"
- J. Sealing Tape Strip: Manufacturer's standard compressible foam with factory applied pressure-sensitive adhesive on one side, used with metal flashings to prevent air and wind blown moisture entry.



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- K. Miscellaneous Accessories: Provide manufacture's standard pre-mold and sheet form, non-reinforced, pipe flashings, inside/outside corner flashings and other accessories.

2.5 ROOF INSULATION

- A. General: Provide preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thicknesses indicated. Roof insulation boards shall not be produced with or contain any of the United States Environmental Protection Agency (USEPA) regulated chlorofluorocarbon (CF) compounds listed in the Montreal Protocol of the United Nations Environmental Program.
- B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class I, Grade 2, rigid close cell foam board, with permanently bonded fiber-reinforced organic facer on both major surfaces, for Class A construction and meeting the following properties:
1. Board Size: 4 foot x 4 foot (for adhesive attachment)
 2. Board Size: 4 foot x 8 foot (for mechanical attachment)
 3. Board Thickness: As specified on drawings
 4. Thermal Resistance: having an minimum aged R-value of 5.41 per inch
 5. Compressive Strength: minimum 20 psi
 6. Dimensional Stability: < 2%
 7. Board Edges: Squared
 8. Available Manufacturers:
 - a. FiberTite; "FTR-Value".
 - b. Sarnafil; "Sarnatherm"
- C. Tapered Insulation: Provide factory-tapered polyisocyanurate insulation boards, ASTM C 1289-95, Type II, Class 1, Grade 2, rigid closed cell foam core, integrally fiber reinforced felt facer laminated on both major surfaces and FM class 1 for 1-90 windstorm and UL class A and meeting the following requirements:
1. Board Size: 4 foot x 4 foot for tapered insulation
 2. Board Thickness: As specified on drawings.
 3. Board Slope: As indicated on drawings
 4. Thermal Resistance: Aged R-value of 5.41 per inch.
 5. Board Edges: Squared
 6. Manufacturers:
 - a. FiberTite; "FTR-Value".
 - b. Sarnafil; "Sarnatherm"
- D. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.6 INSULATION ACCESSORIES

- A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatible with membrane roofing.
- B. Fasteners for Metal Decks: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.
- C. Cold Adhesive for Roof Insulation Application: Single-component, non-flammable, spray dispensed, moisture curing low rise polyurethane foam adhesive specially formulated for adhering roof insulation and acceptable to roofing system manufacturer.
 - 1. Products subject to compliance with requirements:
 - a. Insta-foam Products; "Insta-stik".
 - b. OMG; "Olybond".
- D. Tapered Insulation Edge Strips: Provide molded 12 inch wide closed cell polyisocyanurate foam core with fiberglass facers to provide smooth transitions where wood blocking is higher than insulation along perimeters and at saddle transitions. Provide tapered edge panels that start with a 0 inch edge and taper to 1 ½ inch.
 - 1. Products subject to compliance with requirements:
 - a. Atlas Roofing Corporation; "Gemini Tapered Edge Strips"
- E. Filler Foam: Provide single-component, nonflammable; spray dispensed, adhesive polyurethane foam to be used as filler around obstructions and penetrations to mitigate both air and moisture infiltration.
 - 1. Products subject to compliance with requirements:
 - a. Hilti Construction Chemicals, Inc.; "Hilti CF 124"

PART 3 - EXECUTION

3.1 GENERAL

- A. Coordinate storage and protection of all roofing materials, including insulation, Thermoplastic membrane rolls from exposure to precipitation, dew and night air. ALL roofing materials and accessories are to be completely protected, stored and kept dry during roofing operations.

1. When roofing material is to be stored on roof or ground, material is to be stacked and stored a minimum 4 inches above said roof surface or ground.
2. Tarpaulins are to be used as temporary protection of all roofing materials stored on site, both on roof or ground. Manufacturer's plastic shrink wrap shipping material for insulation bundles will not be considered acceptable protection. Said manufacturer's plastic shrink wrap shipping material is to be removed or sliced to allow for product to vent.

3.2 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
 1. Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.
 2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 3. Verify that surface plane flatness and fastening of steel roof deck.
 4. Verify that steel deck is dry and free of moisture and dew. Do not install insulation over metal deck that is wet or has standing water in flutes.
 5. Verify that concrete substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
 6. On all concrete decks, Contractor is to inspect the existing deck to ensure true and level prior to installing any new insulation. If any deflection is found within the deck surface that will have impact on the over final drainage of the new roof system, immediately notify Architect. **DO NOT PROCEED WITH INSTALLING NEW INSULATION UNTIL THE DEFLECTED AREA HAS BEEN IN-FILLED TO INSURE PROPER DRAINAGE.**
 7. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. Examine completed insulation substrate prior to installing fully adhered thermoplastic membrane for compliance with Manufacturer's written requirements and the following requirements and other conditions which would affect performance of roofing system:
 1. Verify insulation is dry – Do not install roofing membrane over wet insulation.
 2. Verify that insulation is properly and securely attached to substrate.
 3. Verify that insulation is free and clean of sharp objects, such as rocks.
 4. Verify that board joints are tight and flush.

3.3 PREPARATION

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

3.5 INSULATION INSTALLATION

- A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with membrane roofing system manufacturer's written instructions for installing roof insulation.
- C. Clean and sweep surface of substrate which is to be covered with insulation to remove excess dust and debris. Use power blower in lieu of sweeping large areas.
- D. Verify that all wood blocking around the perimeter is set at a height where top of wood blocking will either be flush with or above highest point of roof insulation. Top of insulation is NOT to be above wood blocking.
- E. Install one or more layers of insulation under area of roofing to achieve required thickness. Where multiple layers of insulation is required, install first layer in straight lines with end joints staggered between rows a minimum of 6 inches (150 mm), install 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction. Fill gaps exceeding ¼ inch with insulation. Lay insulation boards with edges in contact with adjacent insulation board; don't force any insulation board to fit.
 - 1. On steel decks mechanically attached all base insulation, including taper insulation.
 - 2. On concrete decks install base insulation with cold adhesive to substrate, install all additional layers in cold adhesive using weighted buckets until insulation is permanently set.
- F. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.

- G. Mechanically Fastened Insulation: Install each layer of insulation and secure to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.
 - 1. Fasten insulation according to requirements in FMG's "Approval Guide" for specified Windstorm Resistance Classification.
 - 2. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.
- H. Cold Adhesive Adhered Insulation: Install each layer of insulation and secure to deck using sprayed adhesive specifically designed for securing insulation to deck and to additional insulation.
 - 1. Spray adhesive onto substrate in continuous beads, widths of $\frac{3}{4}$ inch to 1 inch thick and spacing per manufacturer's requirements to meet specified Windstorm Resistance Classifications
 - 2. Set each layer of insulation into sprayed adhesive immediately after spraying adhesive.
 - 3. After setting insulation in cold adhesive and to ensure continuous contact is made during set-up period, use a weighted buckets immediately after setting insulation in cold adhesive and stagger over insulation boards until insulation is permanently set in cold adhesive. Use weighted buckets that will not damage insulation.
 - 4. Fasten insulation according to requirements in FM Global's "Approval Guide" for specified Windstorm Resistance Classification.
 - 5. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.

3.6 ADHERED ROOFING MEMBRANE INSTALLATION, GENERAL

- A. Prior to installation of new roof membrane, inspect surface of insulation. Surface of insulation is to be clean, dry, free of debris and smooth with no surface roughness or contamination. Broken, damage, delaminated, wet or damaged insulation boards shall be removed and replaced.
- B. Install roofing membrane over area to receive roofing according to membrane roofing system manufacturer's written instructions. Unroll roofing membrane and allow to relax before installing.
 - 1. Install sheet according to ASTM D 5036.
- C. Start installation of roofing membrane in presence of membrane roofing system manufacturer's technical personnel.
- D. Coordinate installation of roofing system, so insulation, membrane and other components of said roofing system is not exposed, or subjected to precipitation, or left uncovered at the end of workday , or when rain is forecasted.

- E. Provide night tie-offs at end of each day's work, to cover exposed completed roofing system.
- F. Complete base flashings and terminations and provide temporary seals to prevent water from entering completed roof work.
- G. Remove all night tie-offs and temporary seals before proceeding additional work.
- H. Curing and dry time of adhesive will be affected by ambient temperatures. Outside ambient air temperature shall be above 40° F.
- I. Humidity can affect dry time of adhesive and/or cause condensation to form on new applied adhesive. NO moisture is to be present on adhesive prior to installing roof membrane.
- J. Storage of adhesive in temperatures in excess of 90° F may affect shelf life of adhesive.

3.7 ADHERED ROOFING MEMBRANE INSTALLATION

- A. Install thermoplastic membrane according to roofing manufacturer's written instructions, starting at low point of roof system and installed so that field seams shed or run parallel to flow of water
- B. Accurately align roofing membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- C. Bonding Adhesive: Apply solvent-based bonding adhesive to substrate at rate required by manufacturer and allow to partially dry before installing roofing membrane. Apply adhesive so that it is smooth, even coats with no gaps, globs, puddles or similar inconsistencies. Do not apply bonding adhesive to back of feltback roofing membrane. Do not allow adhesive to skin-over or surface dry prior to installation of feltback membrane.
- D. Unroll feltback roof membrane immediately into wet adhesive, overlap adjacent roll 3 inches (75 mm). After feltback roof membrane is rolled out into adhesive, immediately press roll firmly into place. Weld cover strips at all feltback seams that do not have a factory salvage edge.
- E. Mechanically or adhesively fasten roofing membrane securely at terminations, penetrations, and perimeter of roofing.
- F. Seams: Clean seam areas, overlap roofing membrane, and hot-air weld side and end laps of roofing membrane according to manufacturer's written instructions to ensure a watertight seam installation.

1. All seams shall be hot-air welded and welded with automatic machine-welder. Laps less than 10 feet in length can be hand welded.
 2. Seam overlaps shall be 3 inches (75 mm) wide when welded with automatic machine-welder and 4 inches (100 mm) when hand welding.
 3. All welding equipment is to be provided by or approved by the Roofing Manufacturer.
 4. Clean seams with acetone or other approved cleaner prior to any welding.
 5. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roofing membrane.
 6. Verify field strength of seams a minimum of twice daily and repair seam sample areas.
 7. Repair tears, voids, and lapped seams in roofing membrane that does not meet requirements.
- G. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.
- H. Install roofing membrane and auxiliary materials to tie in to existing roofing.

3.8 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- B. Clean all vents, pipes, conduits, stacks back to bare metal. Clean all walls free of debris, remove all loose cant strips and existing flashings. Verify that all penetrations are properly secured to roof deck.
- C. Over properly prepared and install flashing substrate, Apply solvent-based bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing. Press flashing sheet firmly in place with a hand roller.
- D. Flash penetrations and field-formed inside and outside corners with sheet flashing.
- E. Clean seam areas and overlap and firmly roll sheet flashings into the adhesive. Weld side and end laps to ensure a watertight seam installation.
- F. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.
- G. Vertical flashings shall be terminated min. 12 inches above the roof plan. Base flashing shall extend min. 8 inches out onto roof plane.
- H. Strippings shall extend min 8 inches beyond wood nailers onto roof plane.



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- I. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roofing membrane.

3.9 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform roof tests and inspections and to prepare test reports.
- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Architect.
 1. Notify Architect or Owner 48 hours in advance of date and time of inspection.
- C. Repair or remove and replace components of membrane roofing system where test results or inspections indicate that they do not comply with specified requirements.
- D. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.10 PROTECTING AND CLEANING

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

END OF SECTION 07 5423



SECTION 076200 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Metal reglets.
 - 2. Fascia and Fascia extenders.
 - 3. Copings
 - 4. Area separation cap.
 - 5. Counterflashings.
 - 6. Surface Mounted receivers.
- B. Related Requirements:
 - 1. Section 061000 "Rough Carpentry" for wood nailers, curbs, and blocking.
 - 2. Section 072513 "Atactic-Polypropylene (APP) Modified Bituminous Roofing Membrane" for materials and installation of sheet metal flashing and trim integral with roofing.
 - 3. Section 072516 "Styrene-Butadiene-Styrene (SBS) Modified Bituminous Roofing Membrane" for materials and installation of sheet metal flashing and trim integral with roofing.
 - 4. Section 077200 "Roof Accessories" for set-on-type curbs, equipment supports, roof hatches, vents, and other manufactured roof accessory units.

1.3 COORDINATION

- A. Coordinate sheet metal flashing and trim layout and seams with sizes and locations of penetrations to be flashed, and joints and seams in adjacent materials.
- B. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leakproof, secure, and noncorrosive installation.



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1.4 PRE-CONSTRUCTION MEETING

- A. Pre-construction Conference: Conduct conference at Project site or sites if multiple locations are part of the scope.
 - 1. Review construction schedule. Verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 2. Review special roof details, roof drainage, roof-penetration flashing, equipment curbs, and condition of other construction that affect sheet metal flashing and trim.
 - 3. Review sheet metal flashing observation and repair procedures after flashing installation.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory.
- B. Shop Drawings: For sheet metal flashing and trim.
 - 1. Detail fabrication and installation layouts, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled work.
 - 2. Include identification of material, thickness, weight, and finish for each item and location in Project.
 - 3. Include details for forming, including profiles, shapes, seams, and dimensions.
 - 4. Include details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
 - 5. Include details of termination points and assemblies.
 - 6. Include details of roof-penetration flashing.
 - 7. Include details of edge conditions, including fascia, fascia extenders, copings, and counterflashings as applicable.
 - 8. Detail formed flashing and trim at scale of not less than 3 inches per 12 inches (1:5).
- C. Samples for Initial Selection: For each type of sheet metal and accessory indicated with factory-applied finishes.
- D. Samples for Verification: For each type of exposed finish.
 - 1. Sheet Metal Flashing: 12 inches (300 mm) long by actual width of unit, including finished seam and in required profile. Include fasteners, cleats, clips, closures, and other attachments.



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2. Trim, Metal Closures, Expansion Joints, Joint Intersections, and Miscellaneous Fabrications: 12 inches (300 mm) long and in required profile. Include fasteners and other exposed accessories.
3. Unit-Type Accessories and Miscellaneous Materials: Full-size Sample.
4. Anodized Aluminum Samples: Samples to show full range to be expected for each color required.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For fabricator, provide copy of current NRCA's UL Certification for ANSI/SPRI ES-1 stating they are authorized to fabricate specific edge metals.
- B. Product Certificates: For each type of coping and roof edge flashing that is SPRI ES-1 tested and FM Approvals approved.
- C. Product Test Reports: For each product, for tests performed by a qualified testing agency.

1.7 QUALITY ASSURANCE

- A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.
 1. Fascia's and Copings are to be SPRI ES-1 tested and FM approved. If shop fabricating, fabricator shall be listed as able to fabricate required details as tested and approved.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage. Unload, store and install sheet metal flashing materials and fabrications in a manner to prevent bending, warping, twisting and surface damage. Stack materials on pallets, covered with suitable weathertight coverings
- B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal flashing and trim installation.



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1.9 WARRANTY

- A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. Sheet Metal Standard for Copper: Comply with CDA's "Copper in Architecture Handbook." Conform to dimensions and profiles shown unless more stringent requirements are indicated.
- D. FM Approvals Listing: Manufacture and install fascia and roof edge flashings that are listed in FM Approvals' "RoofNav" and approved for windstorm classification, Class 1-225. Identify materials with name of fabricator and design approved by FM Approvals.
- E. SPRI Wind Design Standard: Manufacture and install fascia and roof edge flashings tested according to SPRI ES-1 and capable of resisting the following design pressure:
 - 1. Design Pressure: As determined by SPRI ES- 1 for basic wind speed, exposure factor, building height, building importance factor and pressure coefficient that combines a gust factor.
 - 2. Contractor may shop fabricate systems that meet the SPRI ES-1 requirements and those systems are tested and certified to meet the wind and pullout



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resistance design standards per ES-1 Wind Design Standard. Contractor must provide documentation that they are certified and listed on NRCA's UL certification for ANSI/SPRI ES-1.

- F. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 SHEET METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Aluminum Sheet: ASTM B 209 (ASTM B 209M), alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required; with smooth, flat surface.
1. Color: As-Mill Finish Standard one-side bright.
- C. Copper Sheet: ASTM B 370, cold-rolled copper sheet, H00 or H01 temper.
1. Nonpatinated Exposed Finish: Mill.
- D. Metallic-Coated Steel Sheet: Provide zinc-coated (galvanized) steel sheet according to ASTM A 653/A 653M, G90 (Z275) coating designation; prepainted by coil-coating process to comply with ASTM A 755/A 755M.
1. Surface: Smooth, flat.
 2. Exposed Coil-Coated Finish:
 - a. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 3. Color: As selected by Owner from manufacturer's full range.
 4. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with minimum total dry film thickness of 0.5 mil (0.013 mm).
- E. Lead Sheet: ASTM B 749, Type L51121, copper-bearing lead sheet.

2.3 UNDERLAYMENT MATERIALS

- A. Self-Adhering, High-Temperature Sheet: Minimum 30 mils (0.76 mm) thick, consisting of a slip-resistant polyethylene- or polypropylene-film top surface laminated to a layer of butyl- or SBS-modified asphalt adhesive, with release-paper backing; specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer according to written recommendations of underlayment manufacturer.
 - 1. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F (116 deg C) or higher.
 - 2. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F (29 deg C) or lower.
- B. Slip Sheet: Rosin-sized building paper, 3 lb/100 sq. ft. (0.16 kg/sq. m) minimum.

2.4 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
 - 1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
 - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
 - b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
 - 2. Fasteners for Copper Sheet: Copper, hardware bronze or passivated Series 300 stainless steel.
 - 3. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
 - 4. Fasteners for Zinc-Coated (Galvanized): Series 300 stainless steel or hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329.
- C. Solder:
 - 1. For Copper: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead.
 - 2. For Lead: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead.



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3. For Zinc-Coated (Galvanized) Steel: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead or Grade Sn60, 60 percent tin and 40 percent lead with maximum lead content of 0.2 percent.
- D. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
- E. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- F. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.
- G. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.
- H. Bituminous Coating: Cold-applied asphalt emulsion according to ASTM D 1187.
- I. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.
- J. Clips, Straps, Anchoring Devices and Similar Accessories: Compatible with material being installed.

2.5 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
 1. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
 2. Obtain field measurements for accurate fit before shop fabrication.
 3. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
 4. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.

- B. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet (6 mm in 6 m) on slope and location lines indicated on Drawings and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.
- C. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
 - 1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with butyl sealant concealed within joints.
- D. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.
- E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
- F. Fabricate cleats and attachment devices of sizes as recommended by SMACNA's "Architectural Sheet Metal Manual" and by FM Global Property Loss Prevention Data Sheet 1-49 for application, but not less than thickness of metal being secured.
- G. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.
- H. Provide minimum 4 inch wide nailing flanges for setting sheet metal on Modified Bitumen Membrane to be concealed by Modified Bitumen Stripping.
- I. Do not use graphite pencils to mark metal surfaces.

2.6 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Roof Edge Fascia and Fascia Extender: Fabricate in minimum 96-inch- (2400-mm-) long, but not exceeding 10-foot long sections. Furnish with 6-inch- (150-mm-) wide, joint cover plates. Shop fabricate interior and exterior corners.
 - 1. Joint Style: Butted with expansion space and 6-inch- (150-mm-) wide, concealed backup plate.
 - 2. Fabricate from the Following Materials:
 - a. Galvanized Steel: See drawings for chart, metal thickness will be based on overall face dimension.
 - b. Aluminum: See drawings for chart, metal thickness will be based on overall face dimension.



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- B. Copings: Fabricate in minimum 96-inch- (2400-mm-) long, but not exceeding 10-foot- (3-m-) long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and drill elongated holes for fasteners on interior leg. Miter corners, seal, and solder or weld watertight.
 - 1. Joint Style: Butt, with 12-inch- (300-mm-) wide concealed backup plate.
 - 2. Fabricate copings from the following material:
 - a. Zinc-Coated (Galvanized) Steel Sheet: thickness based on actual finished face dimensions, see drawings.
- C. Base Flashing Receivers: Shop fabricate from the following materials:
 - 1. Copper: 16 oz./sq. ft. (0.55 mm) thick.
 - 2. Galvanized Steel: 0.022 inch (0.56 mm) thick.
 - 3. Aluminum: 0.032 inch (0.81 mm) thick.
- D. Counterflashing: Shop fabricate from the following materials:
 - 1. Copper: 16 oz./sq. ft. (0.55 mm) thick.
 - 2. Aluminum: 0.032 inch (0.81 mm) thick.
 - 3. Galvanized Steel: 0.022 inch (0.56 mm) thick.
- E. Roof-Vent Pipe Flashing: Fabricate from the following materials:
 - 1. Lead: 4.0 lb/sq ft (1.6 mm) hard tempered.
- F. Roof-Drain Flashing: Fabricate from the following materials:
 - 1. Lead: 4.0 lb/sq ft (1.6 mm) hard tempered.

2.7 MANUFACTURED LOW SLOPED ROOF SHEET METAL FLASHING AND TRIM

- A. In lieu of Contractor custom fabricated sheet metal flashing and trim, Contractor may provide pre-manufactured components that apply to the design, dimensions, metal and other characteristics of item indicated. Obtain field measurements for accurate fit.
- B. Roof Edge Fascia: Manufacture roof edge fascia with waterdam, continuous compression clamp and fascia cover. Interlocking concealed splice plates. Meets SPRI ES-1 Design Pressure for 120 psf and FM 1-90
 - 1. Available Products
 - a. W.P. Hickman; "Safeguard Gravel Stop."
 - b. Metal Era; "Perma-Tite System 300."
 - 2. Aluminum: thickness is based on actual exterior face dimension, see drawings.



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3. Color: As selected by Owner from manufacturer's full range.
 4. Wind Warrant: 20 yr. 110 mph.
- C. Roof Edge Fascia Extender: Manufacture roof edge fascia are to match same material as the roof edge fascia system, continuous cleat, concealed splice plate and with either a built-in 1/8 inch off-set for fascia drip or no off-set.
1. Available Products,:
 - a. W.P. Hickman; "Formed Extender."
 - b. Metal Era; "Fascia Extender with offset".
 2. Aluminum: thickness based on actual exterior face dimension, see drawings.
 3. Color: As selected by Owner from manufacturer's full range.
- D. Copings: Manufacture coping system with 12" wide anchor clips with factory attached spring, 8" wide splice plate with dual non-curling isocryl butyl sealant strips. Provide manufactures standard endwall flashing and end caps were required.
1. Available Products, based on exterior face dimension:
 - a. Metal-Era; "Perma-Tite Coping."
 2. Color: As selected by Owner from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, substrate, and other conditions affecting performance of the Work.
1. Verify compliance with requirements for installation tolerances of substrates.
 2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
 3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 UNDERLAYMENT INSTALLATION

- A. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Prime substrate if recommended by underlayment manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation; use primer for installing underlayment at low temperatures. Apply in shingle fashion to shed water,

with end laps of not less than 6 inches (150 mm) staggered 24 inches (600 mm) between courses. Overlap side edges not less than 3-1/2 inches (90 mm). Roll laps and edges with roller. Cover underlayment within 14 days.

- B. Apply slip sheet, wrinkle free, over underlayment before installing sheet metal flashing and trim.

3.3 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Comply with SMACNA's "Architectural Sheet Metal Manual". Use fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal and flashing trim system.
 - 1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
 - 2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
 - 3. Space cleats not more than 12 inches (300 mm) apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
 - 4. Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
 - 5. Torch cutting of sheet metal flashing and trim is not permitted.
 - 6. Do not use graphite pencils to mark metal surfaces.
- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
 - 1. Coat concealed side of sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
 - 2. Set nailing flanges in thick coating of asphalt roofing cement for waterproof performance.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet (3 m) with no joints within 24 inches (600 mm) of corner or intersection.
- D. Fasteners: Use fastener sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.

- E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- F. Seal joints as required for watertight construction.
 - 1. Prepare joints and apply sealants to comply with requirements in Section 079200 "Joint Sealants."
- G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets with solder to width of 1-1/2 inches (38 mm); however, reduce pre-tinning where pre-tinned surface would show in completed Work.
 - 1. Do not solder metallic-coated steel sheet.
 - 2. Do not use torches for soldering.
 - 3. Heat surfaces to receive solder, and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.
 - 4. Copper Soldering: Tin edges of uncoated sheets, using solder for copper.
- H. Rivets: Rivet joints in where necessary for strength.

3.4 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and cited in SMACNA's "Architectural Sheet Metal Manual". Provide concealed fasteners where possible, and set units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.
- B. Roof Edge Fascia: Anchor to resist uplift and outward forces according to recommendations in FM Global Property Loss Prevention Data Sheet 1-49 for FM Approvals' listing for required windstorm classification.
 - 1. Interlock bottom of fascia with continuous clip anchored to substrate at 16 inch (400 mm) centers.
- C. Copings: Anchor to resist uplift and outward forces according to recommendations in FMG Loss Prevention Data Sheet 1-49 for specified wind zone and as indicated.
 - 1. Interlock exterior bottom edge of coping with continuous cleats anchored to substrate at 16-inch (400-mm) centers.
 - 2. Interlock interior leg of coping with continuous cleats anchored to substrate at 16-inch (400-mm) centers.
- D. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending minimum of 4 inches (100 mm) over base flashing. Install stainless-steel draw band and tighten.



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- E. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches (100 mm) over base flashing. Lap counterflashing joints minimum of 4 inches (100 mm). Secure in waterproof manner to reglet or receiver with screws at 16 inches O.C.
- F. Roof-Vent Pipe Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing. Install flashing as follows:
 - 1. Before installing modified bitumen cap ply, prime both sides of flange, set lead flange in a bed of asphaltic roof cement and strip-off with modified bitumen stripping.
 - 2. Turn lead flashing down inside vent pipe minimum 4 inches, do not blocking vent pipe opening with lead flashing.

3.5 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder.
- C. Clean off excess sealants.
- D. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended by sheet metal flashing and trim manufacturer. Maintain sheet metal flashing and trim in clean condition during construction.
- E. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 076200



SECTION 077200 - ROOF ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Roof curb with pipe seal cap.
 - 2. Roof expansion joint covers.
 - 3. Roof walkway pads.
 - 4. Rooftop equipment support platform.
 - 5. Roof hatch safety railing and ladder-up post.
 - 6. Pipe supports.
 - 7. Retrofit roof drains.
 - 8. Pre-fabricated man ladder
 - 9. Ductwork supports

1.3 COORDINATION

- A. Coordinate layout and installation of roof accessories with roofing membrane and base flashing and interfacing and adjoining construction to provide a leak-proof, weather-tight, secure, and noncorrosive installation.
 - 1. With Architect's approval, adjust location of roof accessories that would interrupt roof drainage.
- B. Coordinate dimensions with rough-in information or Shop Drawings of equipment to be supported.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of roof accessory.



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1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: For roof accessories.
 1. Include plans, elevations, keyed details, and attachments to other work. Indicate dimensions, loadings, and special conditions. Distinguish between plant- and field-assembled work.
- C. Samples: For each exposed product and for each color and texture specified, prepared on Samples of size to adequately show color.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General Performance: Roof accessories shall withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.

2.2 ROOF CURB WITH PIPE SEAL CAP

- A. Roof Curb Pipe Seal Flashings: Provide new metal roof curb base, min curb height 8" above finished roof surface, with a ABS with a laminated acrylic coating plastic molded curb cover with a molded sealing opening on the top side of curb cover with grooves to accommodate a molded EPDM "weather-tite pressure seal" cap and a molded EPDM to accommodate variety of penetration sizes and configurations. EPDM cap is to resist degradation due to oxidation or exposure to ozone and ultraviolet rays.
 1. Manufacturers:
 - a. Custom Curb, Inc.
 - b. Pate Company (The).
 - c. Portals Plus

2.3 ROOF EXPANSION JOINT COVERS

- A. Roof Expansion Joint Cover: standard flexible, weather-proof covers designed to manage movement within a roof system. Expansion joint cover to be a combination of EPDM .60 mill cover, with closed-cell foam bellows with metal nailing flanges. Provide manufacturers prefabricated corners and intersection units were required to provide continuous weather-proof protection.



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1. Available Manufacturer:
 - a. Johns Manville; "Expand-O-Flash, EJ, Type E

2.4 ROOF WALKWAY PADS

- A. Roof Walkway Pads: interlocking, resilient, shock- absorbing, weather-resistant walkway pad made from recycled tires, with a smooth finish on top surface and multi-directional drainage pattern on underside.

1. Available Manufacturer:
 - a. Carlisle SynTec; "Carlisle Sure-Seal Rubber Pavers
2. Walkway Pad Width: 24 inches x 24 inches.
3. Walkway Pad Depth: 2 inches (50 mm).
4. Color: Black

2.5 EQUIPMENT SUPPORT PLATFORM

- A. Equipment Support Platform: Provide manufacturer's standard galvanized metal base platform and adjustable, non-penetrating equipment supports, designed to support mechanical units.

1. Available Manufacturer:
 - a. Advanced Support Products, Inc.
 - 1) SS1000E Equipment Support
 - 2) HV0505B – Base Platform
 - b. UNISTRUT; Heavy Duty Mechanical Support

2.6 ROOF HATCH FALL PROTECTION SAFETY RAILING SYSTEM

- B. Roof Hatches Safety Railing System: Manufacturer's standard complete system including rails, clamps, fasteners, safety barrier at roof hatch opening, and all accessories required for a complete non-penetrating installation.

1. Test Load: 250 pound
2. Pipe or Tube: 1-1/4-inch (31-mm) ID galvanized pipe
3. Self-Latching Gate: Fabricated of same materials and rail spacing as safety railing system. Provide manufacturer's standard hinges and self-latching mechanism.
4. Pipe Ends and Tops: Covered or plugged with weather-resistant material.

5. Provide weep holes or another means to drain entrapped water in hollow sections of handrail and railing members that are exposed to exterior or to moisture from condensation or other sources.
6. Fabricate joints that will be exposed to weather in a watertight manner.
7. Close exposed ends of handrail and railing members with prefabricated end fittings.
8. Fasteners: Manufacturer's standard.

- a. Manufacturer:

- 1.) Bilco Company (The); "Bil-Guard Hatch Railing System".

2.7 ROOF HATCH MAN LADDER UP SAFETY POST

- A. Ladder Safety Post: telescoping post, which permanently mounts to any fixed ladder, with a stainless steel spring balancing mechanism for upward and downward movement. Post to lock in place on full extension. Provide release mechanism to return post to closed position.

1. Test Load: 250 pounds.
 2. Height: 42 inches (1060 mm) above finished roof deck.
 3. Material and Finish: Steel tube, galvanized, powder coated yellow
 4. Diameter: Pipe with 1-5/8-inch (41-mm) OD tube.

- a. Manufacturers:

- 1.) Bilco Company (The); "LadderUp Safety Post".

2.8 PIPE/CONDUIT ROOF SUPPORTS

- B. Pipe/Conduit Roof Supports: Extruded support base that has a recessed channel with a integral attachment point. Support blocks, to have 8 x 8 inch base and to support pipes, conduit or other roof top equipment minimum 3 inches above finish roof surface, high resistant, with base designed not to block water. Provide manufacturers standard uni-strut with prepunched holes for easy attachment to support base, and to existing roof top equipment.

1. Available Manufacturers:

- a. UNISTRUT; "UP-BK UniPier Rooftop support"

2.9 RETROFIT ROOF DRAINS

- C. Retrofit Roof Drains: Provide new one piece aluminum molded flat flange with an outlet pipe unit with a clamping ring and heavy duty cast aluminum strainer. Unit is to have a permanent expanding foam sealing tape on the outlet tube.



1. Manufacturers:
 - a. OMG; "Hercules RetroDrain"
 - b. Portals Plus; "Reroof Drains"

2.10 PREFABRICATED MAN LADDERS

- A. Providing a prefabricated man ladder and mounting brackets.

1. Available Products:
 - a. O'Keefee's Inc.; "504 Tubular Rail Low Parapet Ladder w/ Walk-Through Rail Extensions".
 - b. Precision Ladders, LLC; "Tubular Fixed Ladder W/ Walk-Through."

2.11 DUCTWORK SUPPORTS

- A. Ductwork Supports: Provide non-roof penetrating, single support expandable width and height duct support, utilizing 12 gauge telescoping components to support ductwork. Ductwork support to use non-roof penetrating rubber bases.
2. Available Manufacturers:
 - a. Rooftop Support Systems, "RTS Duct Supports"

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.
- B. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
- C. Verify dimensions of roof openings for roof accessories.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.



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3.2 INSTALLATION

- A. General: Install roof accessories according to manufacturer's written instructions.
 - 1. Install roof accessories level; plumb; true to line and elevation; and without warping, jogs in alignment, buckling, or tool marks.
 - 2. Anchor roof accessories securely in place so they are capable of resisting indicated loads.
 - 3. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of roof accessories and fit them to substrates.
 - 4. Install roof accessories to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.
 - 5. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof accessories for waterproof performance.

3.3 REPAIR AND CLEANING

- A. Clean exposed surfaces according to manufacturer's written instructions.
- B. Clean off excess sealants.
- C. Replace roof accessories that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077200



SECTION 07 9200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes joint sealants for the following applications:
 - 1. Exterior joints in the following vertical surfaces and horizontal nontraffic surfaces:
 - a. Seal top of roofing base flashings
 - b. Sheet Metal Terminations

1.3 PERFORMANCE REQUIREMENTS

- A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

1.4 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Product Certificates: For each type of joint sealant and accessory, signed by product manufacturer.
- D. Preconstruction Field Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on preconstruction testing specified in "Quality Assurance" Article.
- E. Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:



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1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
 2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.
- F. Field Test Report Log: For each elastomeric sealant application.
- G. Product Test Reports: Based on comprehensive testing of product formulations performed by a qualified testing agency, indicating that sealants comply with requirements.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized Installer who is approved or licensed for installation of elastomeric sealants required for this Project.
- B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

1.6 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C).
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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



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2.2 MATERIALS, GENERAL

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

2.3 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
- B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- C. Single-Component Nonsag Urethane Sealant:
 - 1. Available Products:
 - a. Sika Corporation, Inc.; Sikaflex - 1a.
 - b. Sonneborn, Division of ChemRex Inc.; Ultra.
 - c. Sonneborn, Division of ChemRex Inc.; NP 1.
 - d. Tremco; Vulkem 116.
 - e. BASF; "MasterSeal NP-1".
 - 2. Type and Grade: S (single component) and NS (nonsag).
 - 3. Class: 25.
 - 4. Uses Related to Exposure: T (traffic) and NT (nontraffic).
 - 5. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.
 - a. Use O Joint Substrates: aluminum, galvanized steel, brick, concrete, limestone.

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Masonry.
 - 3. Remove laitance and form-release agents from concrete.

- B. Joint Priming: Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- D. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.
 - 4. Provide flush joint configuration where indicated per Figure 5B in ASTM C 1193.
 - 5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 5C in ASTM C 1193.
 - a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

3.4 FIELD QUALITY CONTROL

- A. Inspect joints for complete fill, for absence of voids, and for joint configuration complying with specified requirements. Record results in a field-adhesion-test log.
- B. Evaluation of Field Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with



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other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

END OF SECTION 07 9200



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SECTION 0792550 - ROOF DRAINAGE, MECHANICAL AND ELECTRICAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Raising existing Roof Top Equipment
- B. Related Sections include the following:
 - 1. Division 6 Section "Rough Carpentry" for roof sheathing, wood cants, and wood nailers.
 - 2. Division 7 Section "Modified Bituminous Membrane System for Roof membrane
 - 3. Division 7 Section "Sheet Metal Flashing and Trim" for shop- and field-fabricated metal flashing and counterflashing, roof expansion-joint covers, and miscellaneous sheet metal trim and accessories.

1.3 SUBMITTALS

- A. Product Data: For each type of roof accessory indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

1.4 QUALITY ASSURANCE

- A. Electrical work: Comply with NECA 1.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Pack, handle, and ship roof accessories properly labeled in heavy-duty packaging to prevent damage.



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1.6 COORDINATION

- A. Coordinate disconnect and reconnect of all raised power roof units with Owner and occupants.

PART 2 – PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 ELECTRICAL WORK – AT RAISED POWER ROOF UNITS (if any):

- A. Disconnect all powered roof units before removing for new flashings or to raise existing or provide new curbs. Reconnect after equipment has been permanently reinstalled.
- B. Comply with the National Electrical Code and all local electrical codes and standards.
- C. Disconnect, re-wire and reconnect power roof units noted or required for be raised to accommodate new roof system.

3.2 MECHANICAL WORK – AT RAISED ROOF MOUNTED AIR HANDLING UNITS (if any)

- A. Disconnect all connections, extending refrigerant lines and any other mechanical pipes, ducts or conduits required to raise air handling unit.
- B. Reinstall existing air handling unit on new curb
- C. Make all reconnections and test operate existing air handling unit in presence of Owner.

END OF SECTION 079550