

**DUBLIN CITY SCHOOL DISTRICT BOARD OF EDUCATION
2027 ROOF REPLACEMENT AT WRIGHT ELEMENTARY SCHOOL
DUBLIN, OHIO**

**ISSUED FOR:
CONSTRUCTION DOCUMENTS
10-14-26**

**PREPARED BY:
MAYS CONSULTING & EVALUATION SERVICES, INC.
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MAYS PROJECT NO. DOH43-013-03

2027 ROOF REPLACEMENT AT WRIGHT ELEMENTARY SCHOOL

OWNER:

**DUBLIN CITY SCHOOL DISTRICT BOARD OF EDUCATION
6371a SHIER RINGS ROAD
DUBLIN, OHIO 43017**

**CONTACT:
JEFF STARK
CHIEF OPERATING OFFICER
PHONE: 614-760-4323
EMAIL: STARK_JEFF@DUBLINSCHOOLS.NET**

PROJECT LOCATION:

**2335 W. CASE ROAD
COLUMBUS, OHIO 43235**

DESIGN PROFESSIONAL:

**MAYS CONSULTING & EVALUATION SERVICES, INC.
201 PENNSYLVANIA AVE., P.O. BOX 1020
DELAWARE, OHIO 43015**

**CONTACT:
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PROJECT ADMINISTRATOR
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EMAIL: DLAWRENCE@MCES.COM**

ASBESTOS CONSULTANT:

**LAWHON & ASSOCIATES, INC.
1441 KING AVENUE
COLUMBUS, OHIO 43212**

**CONTACT:
DOMANIC MARTIN, APD #60900 (EXP 10-07-2025)
CONSULTANT
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NOTICE TO BIDDERS

Sealed bids will be received by the Board of Education of the Dublin City School District for the 2027 Roof Replacement at Wright Elementary School.

The bids will be received at:

6371A Shier Rings Road
Dublin, Ohio, 43016
Attention: Jeff Stark, Chief Operating Officer

until 2:00 p.m. local time on November 17, 2026, and will be opened and publicly read and recorded immediately thereafter.

The contract documents, including the notice to bidders, may be obtained at:

<https://www.dublinschools.net/departments/operations/bids-and-rfps>

Instructions to Bidders

PROJECT:

Dublin City School District, 2027 Roof Replacement at Wright Elementary School.

THE OWNER:

Board of Education of the Dublin City School District
6371A Shier Rings Road
Dublin, Ohio, 43016

THE PROFESSIONAL DESIGN FIRM PROVIDING ARCHITECTURAL OR ENGINEERING SERVICES FOR THE PROJECT (THE “ARCHITECT”):

Mays Consulting & Evaluation Services, Inc.
201 Pennsylvania Avenue
P.O. Box 1020
Delaware, Ohio 43015

INQUIRIES REGARDING BIDDING DOCUMENTS:

Inquiries regarding the Bidding Documents, including requests for clarifications or interpretations, request for information, or proposal of substitutions shall be submitted by e-mail to the Architect to the attention of Dan Lawrence at:

dlawrence@mces.com

The subject line of the e-mail should clearly reference the Project as named above.

ESTIMATE:

The estimated Cost of the Work for the Project is as follows:

Base Bid	\$680,000.00
Alternate #1	\$185,000.00

PRE-BID MEETING:

There will be Pre-Bid Meetings for all Bidders as follows:

Date/Time: October 29, 2026, at 4:00 p.m.

Location: Wright Elementary School
2335 West Case Road
Columbus, Ohio 43235

DATE OF SUBSTANTIAL COMPLETION:

August 1, 2027

BID OPENING:

In addition to attending the public bid opening, Bidders may observe the public Bid opening live at the following link:

<https://www.youtube.com/@DublinCitySchoolsOH/streams>

ARTICLE 1. DEFINITIONS

1.1 Bidding Documents include the Bidding Requirements and the Contract Documents plus any other item designated as a Bidding Document. The Bidding Requirements consist of the Notice to Bidders, Instructions to Bidders, the Bid Form, Bid Guaranty, bond (as required under Section 4.2.1), and other sample bidding and contract forms. The Contract Documents, which are inclusive of the Bidding Requirements, are enumerated and defined in the Agreement between the Owner and Contractor. Definitions set forth in the Agreement between Owner and Contractor or in other Contract Documents are applicable to the Bidding Documents.

1.2 Addendum or Addenda are written or graphic instruments issued by the Architect prior to the opening of Bids which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.

1.3 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

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

1.5 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted on the Bid Form in accordance with the Bidding Documents.

1.6 A Bidder is a person or entity who submits a Bid.

1.7 The Bid Form is the form furnished in the Bidding Documents that is to be completed, signed, and submitted containing the Bidder's Bid.

1.8 Bid Guaranty means a bond or other instrument of security authorized by Ohio Revised Code Section 153.54 submitted with the Bid in accordance with Section 4.2 to provide assurance that the Bidder will execute the Agreement.

1.9 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.

ARTICLE 2. BIDDER'S REPRESENTATIONS

2.1 The Bidder by making a Bid represents that:

2.1.1 The Bidder has read and understands the Bidding 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 is made in compliance with the Bidding Documents.

2.1.3 The Bidder has visited the site and surrounding area, become familiar with the conditions under which the Work is to be performed (including but not limited to the condition, layout and nature of the site and surrounding area; the availability and cost of labor; the availability and cost of materials, supplies and equipment; the costs of temporary utilities required in the Bid; the cost of any required permit or license; the usual weather conditions of the Project location; conditions bearing upon transportation, disposal, handling and storage of equipment, materials and waste; and subsurface and concealed physical conditions and related information provided in the Bidding Documents) and has correlated the Bidder's personal observations with the requirements of Bidding Documents.

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

2.2 By submitting its Bid, the Bidder understands and agrees that the Contract Sum, based on its Bid and as amended by Change Orders, shall cover all amounts due from the Owner resulting from interference, disruption, hindrance or delay caused by or between Separate Contractors or their agents and employees.

2.3 The Bidder agrees that the Bidder will make no request for additional compensation or mitigation of Liquidated Damages for any such interference, disruption, hindrance or delay, and will accept as full satisfaction an extension of the Contract Time which may be provided by the Owner in accordance with the Bidding Documents.

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 Notice to Bidders in the number and for the dollar amount, if any, stated therein.

3.1.2 Bidders shall use complete sets of Bidding Documents in preparing Bids; neither the Owner nor Architect assume responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

3.1.3 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.

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 Bidders requiring clarification or interpretation of the Bidding Documents shall submit a written request for information to the Architect at least seven (7) days prior to the date for receipt of Bids. By submitting its Bid, each Bidder represents and agrees, based upon its careful and diligent review of the Bidding Documents, that it is not aware of any conflicts, inconsistencies, errors or omissions in the Bidding Documents for which it has not timely notified the Architect. Bidders who fail to timely provide notification and to request clarification will be expected to overcome such conditions without additional compensation.

3.2.3 Interpretations, corrections and changes of the Bidding Documents if determined by the Architect to be warranted will be made by Addendum. Interpretations, corrections and changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon them.

3.2.4 In interpreting the Bidding Documents, words describing materials that have a well-known technical or trade meaning, unless otherwise defined in the Bidding Documents, shall be construed in accordance with the well-known meaning recognized by the trade.

3.2.5 When the Bidding Documents refer to a period of time by a number of days, it excludes the first day and includes the last day of the period. If the last day of the period falls on a Saturday, Sunday, or a legal holiday, that day shall be omitted, and the period shall end on the next day which is not a Saturday, Sunday, or legal holiday. The term "day" as used in the Instructions to Bidders shall mean a calendar day unless otherwise noted.

3.2.6 Bidder is required to comply with all requirements of the Bidding Documents, regardless of whether the Bidder has actual knowledge of the requirements and regardless of any statement or omission made by the Bidder that might indicate a contrary intention.

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 submitted to the Architect at least seven (7) 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, the reason for the requested substitution, a complete description of the proposed substitution including the name of the material or equipment proposed as the substitute, drawings, performance and test data, any other information necessary for an evaluation, and a certification from the Bidder that the proposed item is equal in quality and all aspects of performance and appearance, to the item specified. A statement setting forth changes in other

materials, equipment or other portions of the Work, including changes in the work of Separate Contractors 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.

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

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

3.4 ADDENDA

3.4.1 Addenda will be transmitted by e-mail or facsimile, posted to the Owner's website set forth in the Notice to Bidders, posted to an FTP site, or otherwise furnished to each firm's contact person of record. It is essential that Bidders provide full and accurate contact information to the Owner, including e-mail addresses.

3.4.2 All Bidders will be presumed to have actual knowledge of all Addenda distributed in the manner set forth in Section 3.4.1, and Bidders shall not avail themselves of incomplete knowledge and/or lack of familiarity of the Bidding Documents and any Addenda thereto resulting from the Bidder's failure to provide accurate contact information to the Owner, a Bidder's failure to check the Owner's website, or a Bidder's failure to otherwise ascertain delivery of an Addendum

3.4.3 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

3.5 If an Addendum is issued within 72 hours prior to the published time for the opening of Bids (excluding Saturdays, Sundays, and legal holidays), then the time for opening of Bids shall be extended one week with no further advertising of Bids required.

3.5.1 Each Bidder shall ascertain prior to submitting a Bid that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid Form. If the Bidder fails to acknowledge receipt of each Addendum, the Bid may be deemed non-responsive, unless the Bid amount clearly and unambiguously reflects receipt of the Addendum, or the Addendum involves only a matter of form and does not affect the price, quantity or quality of the Work to be performed in any material manner.

3.6 BASIS OF DESIGN AND ACCEPTABLE COMPONENTS

3.6.1 The Bidding Documents may list components produced by specific manufacturers to denote kind, quality, or performance requirements. The component listed first is the basis of design component, and other listed components are acceptable components. If the Bidder includes an acceptable component in its Bid, the Bidder is responsible for the costs of coordination and modification required.

ARTICLE 4. BIDDING PROCEDURES

4.1 PREPARATION OF BIDS

4.1.1 The Bidder is strongly encouraged to attend any pre-bid meetings where questions will be received regarding the Bidding Documents. Each Bidder will be determined to have actual knowledge of all information provided or discussed at the pre-bid meeting, and additional compensation shall not be based upon the Bidder's failure to attend the pre-bid meeting which results in the Bidder's incomplete knowledge and familiarity of the Project requirements.

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

4.1.3 The Owner may solicit Bids which combine two or more bid packages. The individual Base Bid amounts of each separate bid package need not total the combination Base Bid amount. The Owner reserves the right to accept or reject any or all separate Bids or combination Bids, in whole or in part, and in any order.

4.1.4 All blanks on the Bid Form shall be legibly filled in using a non-erasable medium, and interlineations, alterations and erasures must be initialed in ink by the signer of the Bid.

4.1.5 Sums shall be expressed in both words and figures. In case of discrepancy between the amount in words versus the amounts in figures, the lowest amount shall control, whether expressed in numbers or words.

4.1.6 The wording on the Bid Form shall be used without change, alteration or addition. Any change in the wording or omission of specifying accompanying documents may cause the Bid to be rejected.

4.1.7 When an Alternate is listed on the Bid Form, the Bidder shall fill in the blank with an amount to add to or deduct from the Base Bid. Voluntary Alternates are prohibited from becoming the basis of the Contract award.

4.1.7.1 If no change in the Bid amount is required, indicate "No Change" or "\$0 dollars."

4.1.7.2 When the Bid Form provides for quoting either an addition or deduction for an Alternate, indicate whether the amount is an addition or deduction. If it is not indicated, it will be conclusively presumed that the amount is a deduction. Methods for indicating a negative number may include preceding the number by a minus sign, enclosing the number in parenthesis, or, when provided on the Bid Form, by circling "DEDUCT" or similar words.

4.1.7.3 Failure to make an entry, or an entry of "No Bid," "N/A," or similar entry for any Alternate shall cause the Bid to be nonresponsive if that Alternate is selected. If the Alternate is not selected, such an entry on that Alternate will not itself render a Bidder nonresponsive.

4.1.8 Each copy of the Bid shall state the legal name of the Bidder and the nature of legal form of the Bidder. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation. For a Bid submitted by an agent, the Owner may require submission of a current power of attorney certifying the agent's authority to bind the Bidder. The Bidder may be required to provide evidence of legal authority to perform within the jurisdiction of the Work.

4.1.9 In determining which Bid is the lowest, the Owner shall consider the Base Bid and any Alternate or Alternates which the Owner decides to accept in the Owner's sole and absolute discretion. The Owner shall have the right to accept Alternates in any order or combination as desired by the Owner and to determine the low Bidder on the basis of the sum of the Base Bid and Alternates accepted. The Bidder further understands and acknowledges that use of Alternates is a long held customary practice in the construction industry in the State of Ohio. The Bidder understands that based on Alternates selected by the Owner, the Contract award to the lowest responsible Bidder may result in an award to a Bidder other than the Bidder that submitted the lowest Base Bid.

4.1.10 When two or more Bids are equal, in the whole, or in any part thereof, and are lower than any others, and the Owner has determined the Bidders to be responsible, the Owner may do either of the following in the Owner's sole discretion: (1) accept either of such equal bids, but in no case shall the Work be divided between such Bidders, or (2) select one Bidder by lot in the presence of all Bidders in such manner as the Owner shall determine and such selection shall be final, and if one of the Bidders refuses to participate in or fails to be present, the selection shall be made among the participating Bidders.

4.1.11 UNIT PRICES.

4.1.11.1 If Unit Prices are requested on the Bid Form, the amount of the scheduled quantities shall be included in the Base Bid amount. Unit prices shall be used solely for the purpose of determining the adjustment to the Contract Sum for the difference between the estimated quantities on the Bid Form and the actual quantities provided. If Unit Prices are stated to be sought only for informational purposes, they shall not be included in the Bid amount.

4.1.11.2 Unit Prices shall include all materials, equipment, labor, delivery, installation, and any other cost or expense, in connection with, or incidental to, the performance of that portion of the Work. Unit Prices shall not include the Contractor's fee on account of the associated Unit Price Work. The Bidder shall submit Unit Prices for all items listed.

4.1.11.3 Where there is a conflict between a Unit Price and the extension thereof made by the Bidder, the Unit Price shall govern, and a corrected extension of such Unit Price shall be made.

4.1.11.4 The Bidder agrees that the Owner may increase, decrease or delete entirely the scheduled quantities of Work to be done and materials to be furnished after execution of the Contract.

4.1.12 ALLOWANCES

4.1.12.1 If allowances are provided in the Bidding Documents, including the Bid Form, the amount of each applicable allowance shall be included in the Base Bid amount. Allowances shall be used solely for the purpose of determining the adjustment to the Contract Sum for the difference between the amount of the allowance and the actual cost of the related Work provided.

4.2 BID GUARANTY/BOND

4.2.1 A Bid Guaranty payable to the Owner and meeting the requirements of Ohio Revised Code Section 153.54 shall be submitted with the Bidders Bid in the form of either (i) a bid guaranty and contract bond meeting the requirements of Ohio Revised Code Sections 153.54(A)(1), 153.54(B) and 153.571 or (ii) a certified check, cashier's check or letter of credit meeting the requirements of Ohio Revised Code Sections 153.54(A)(2) and 153.54(C). The Bid Guaranty shall serve as an assurance that the Bidder will, upon acceptance of the Bid by the Owner, comply with all conditions for the execution of the Contract within the time specified.

4.2.1.1 The amount of the bid guaranty and contract bond under Section 4.2.1(i) herein should be the full amount of the Bidder's Base Bid plus all add Alternates with no deduction for any deduct Alternates; a percentage is not acceptable. If the blank line on the bid guaranty and contract bond is not filled in, the penal sum will automatically be the full amount of the Base Bid plus all accepted Alternates. If an amount is inserted, then the failure to state an amount equal to or greater than the total of the Base Bid plus all add Alternates that are accepted shall make the Bid non-responsive. If the successful Bidder provided a bid guaranty and contract bond as its Bid Guaranty under Section 4.2.1(i) and this Subsection 4.2.1.1, then the bid guaranty and contract bond shall become the performance and payment bond.

4.2.1.2 A certified check, cashier's check or letter of credit under Section 4.2.1(ii) herein should be equal to ten (10) percent of the Base Bid plus all add Alternates, and a failure to provide an amount equal to or greater than ten (10) percent of the total of the Base Bid plus all add Alternates that are accepted shall make the Bid non-responsive. Any letter of credit shall be revocable only by the Owner. Successful Bidders that provide a Bid Guaranty in the form of a certified check, cashier's check or letter of credit under Section 4.2.1(ii) and this subsection 4.2.1.2 shall, at the time of signing the Contract, provide a performance and payment bond meeting the requirements of Ohio Revised Code Sections 153.54(C) and 153.57.

4.2.1.3 A bond must be issued by a surety capable of demonstrating a record of competent underwriting, efficient management, adequate reserves, and sound investments. A bond must be signed by an authorized agent of an acceptable surety bonding company and by the Bidder. The bond must be issued by a surety company authorized by the Ohio Department of Insurance to transact business in the State of Ohio and a copy of that insurance company's certificate of compliance should be attached to the bond. Each bond shall also be supported by a power of attorney for the agent signing for the surety.

4.2.2 FORFEITURE

4.2.2.1 If for any reason, other than as authorized by Sections 4.4 and 4.5 herein, the Bidder fails to execute the Contract, and the Owner awards the Contract to another subsequent Bidder which the Owner determines is the lowest responsible Bidder, the Bidder who failed to enter into a Contract shall be liable to the Owner for the difference between such Bidder's Bid amount and the Bid amount of the subsequent Bidder awarded the Contract, but not to exceed ten (10) percent of the Bid amount of the Bidder who failed to enter into a Contract. For purposes of this Section 4.2.2, the Bid amount shall mean the Base Bid and Alternates selected by the Owner.

4.2.2.2 If the subsequent Bidder also fails or refuses to execute the Contract, the liability of such subsequent Bidder shall be the amount of the difference between the Bid amount of such subsequent Bidder and the Bid amount of another subsequent Bidder which the Owner determines is the lowest responsible Bidder, but not in excess of ten (10) percent of the Bid amount of the subsequent Bidder who failed to enter into a Contract. Liability on account of an award to each succeeding lowest responsible Bidder shall be determined in like manner.

4.2.2.3 If the Owner does not award the Contract to another Bidder which the Owner determines is the next lowest responsible Bidder, but resubmits the Project for bidding, the Bidder failing to execute the Contract shall be liable to the Owner for the costs in connection with the resubmission, of printing new Bidding Documents, required advertising and printing and mailing notices to prospective Bidders, but not to exceed ten percent (10%) of such Bidder's Bid amount.

4.3 SUBMISSION OF BIDS

4.3.1 The Bid, the Bid Guaranty 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 Bid 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 sealed Bid envelope is enclosed in another envelope for purpose of delivery, the exterior envelope shall also be addressed to the party receiving the Bid 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.

4.3.2 Bids shall be delivered to the designated location not later than the time and date for receipt of Bids. The cancellation or delay of the normal business activities of the Owner shall not be construed as an extension of the time and date for the receipt and opening of Bids. Bids received after the time and date for receipt of Bids will be returned unopened regardless of the reason for the delay.

4.3.3 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids, regardless of the method of delivery. Ample time should be allowed for transmittal of Bids. Bidders should secure correct information relative to the probable time of arrival at the place where Bids are to be opened.

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

4.3.5 Form of Bid

4.3.5.1 Bids shall not contain a recapitulation of the Work to be done.

4.3.5.2 Before submitting a Bid, Bidders should carefully examine all of the Bidding Documents, visit the site and fully inform themselves as to all existing conditions and limitations that may affect the Work, including prevailing climate conditions and when the Work will be performed. Each Contractor shall be responsible for its portion of the Work regardless of what Drawing it may appear on or Specification division it is described in.

4.4 MODIFICATION OR WITHDRAWAL OF BID PRIOR TO BID OPENING

4.4.1 Prior to the time and date designated for receipt of Bids, a Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder. Written confirmation over the signature of the Bidder shall be received, and date- and time-stamped by the receiving party on or before the date and time set for receipt of Bids. A modification to the Bid amount shall be worded as not to reveal the amount of the original Bid, and changes shall provide an amount to be added to or subtracted from the Bid amount so that the final Bid amount can be determined only after the sealed envelope is opened.

Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders. The Bid Guaranty shall be in an amount sufficient for the Bid as resubmitted.

4.5 WITHDRAWAL OF BID AFTER BID OPENING

4.5.1 Following the Bid opening, withdrawal of Bids shall be governed by Ohio Revised Code Section 9.31.

4.5.2 A Bidder may withdraw a Bid from consideration after the Bid opening if the Bid amount was substantially lower than the amounts of other Bids, providing the Bid was submitted in good faith, and the reason for the Bid amount being substantially lower was a clerical mistake, as opposed to a judgment mistake, and was actually due to an unintentional and substantial arithmetic error or an unintentional omission of a substantial quantity of Work, labor, or material made directly in the compilation of the Bid amount.

4.5.2.1 Notice of a request to withdraw a Bid shall be made in writing filed with the Owner within two (2) business days after the conclusion of the bid opening. The Owner reserves the right to request the Bidder to submit evidence substantiating the Bidder's request to withdraw the Bid.

4.5.2.2 No Bid may be withdrawn under Section 4.5.2 which would result in awarding a Contract involving the same item on another Bid to the same Bidder.

4.5.3 If a Bidder withdraws its Bid under Section 4.5.2, the Owner may award the Contract to the next lowest responsible Bidder, or reject all Bids and rebid the Project. In the event the Owner rebids the Project, the withdrawing Bidder shall pay the costs, in connection with the re-bidding, of printing new Bidding Documents, required advertising, and printing and mailing of notices to prospective Bidders, if the Owner finds that these costs would not have been incurred but for the withdrawal.

4.5.4 If the Owner contests the right of a Bidder to withdraw a Bid pursuant to Section 4.5.2, it shall hold a hearing within ten (10) days after the Bid opening and the Owner shall issue an order allowing or denying the claim of this right within five (5) days after the hearing is concluded. The Owner shall give the withdrawing Bidder timely notice of the time and place of the hearing. The Owner shall make a stenographic record of all testimony, other evidence, and rulings on the admissibility of evidence presented at the hearing, and the Bidder shall pay the costs of the hearing. Pursuant to Ohio Revised Code Section 119.12, the Bidder may appeal the order of the Owner.

4.5.5 In the event the Owner denies the request for withdrawal and the Bidder elects to appeal or otherwise refuses to perform the Contract, the Owner may reject all Bids or award the Contract to the next lowest responsible Bidder.

4.5.6 A Bidder who is permitted to withdraw a Bid under Section 4.5.2 shall not supply material or labor to, or perform a subcontract or other work for, the person to whom the Contract is awarded, or otherwise benefit, directly or indirectly, from the performance of the Project for which the withdrawn Bid was submitted, without the Owner's prior written consent. The person to whom the Contract was awarded and the withdrawing Bidder are jointly liable to the Owner in an amount equal to any compensation paid to or for the benefit of the withdrawing Bidder without such approval, in addition to the penalty provided for in Ohio Revised Code Section 2913.31.

4.5.7 A request for a withdrawal of a Bid that is made more than two business days after the conclusion of the Bid opening shall be subject to Section 4.2.2 herein.

ARTICLE 5. CONSIDERATION OF BIDS

5.1 OPENING OF BIDS

5.1.1 Bids received on time will be publicly opened and will be read aloud. An abstract of the Bids may be made available to Bidders. Bids will be recorded showing the date and time received. Bids received prior to the time of opening will be securely kept, unopened. No responsibility will be accepted for the premature opening of a Bid not properly addressed and identified.

5.1.2 The public opening and reading of Bids is for informational purposes only and is not to be construed as an acceptance or rejection of any Bid submitted.

5.1.3 The contents of the Bid envelope shall be a public record and open for inspection, upon request, at any time after the completion of the entire Bid opening, except for any information that is not a public record under Ohio law.

5.1.4 All Bids shall remain open for acceptance for sixty (60) days following the day of the Bid opening, but the Owner may, in its sole discretion, release any Bid and return the Bid Guaranty prior to that date.

5.2 BID EVALUATION

5.2.1 The Owner shall have the right in its sole discretion to reject any or all Bids and submit the Project or any components thereof for rebidding. A Bid not accompanied by a required Bid Guaranty 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 will have the right to take such steps as it deems necessary to determine the responsibility of the Bidder and the ability of the Bidder to perform the Work, and the Bidder shall furnish the Owner and Architect such data for this purpose as they may request. Such data may include but not be limited to:

5.2.2.1 Overall experience of the Bidder, including number of years in business under present and former business names. If the Bidder's management operates or has operated another construction company, the Owner may consider the work history of that company in determining the overall experience of the Bidder;

5.2.2.2 Complete listing of all ongoing and completed public and private construction projects of the Bidder in the last three years, including the nature and value of each contract and a name/address/phone number for each owner;

5.2.2.3 Complete listing of any public or private construction projects for which the Bidder has been declared in default; also, any EPA, OSHA or other regulating entity issues or citations in the last ten (10) years;

5.2.2.4 Additional financial information, including certified financial statements, bank references, and information concerning Bidder as reported by Dun & Bradstreet and other similar reporting services, all of which shall be confidential except under proper order of a court and shall not constitute a public record under Ohio Revised Code 149.43;

5.2.2.5 Description of relevant equipment and facilities of the Bidder;

5.2.2.6 Description of the management experience of the Bidder's project manager(s) and superintendent(s);

5.2.2.7 Complete list of Subcontractors which the Bidder proposes to employ on the Project;

5.2.2.8 Current Ohio Workers' Compensation Certificate;

5.2.2.9 If the Bidder is a foreign corporation, i.e., not incorporated under the laws of Ohio, a Certificate of Good Standing from the Secretary of State showing the right of the Bidder to do business in the State; or, if the Bidder is a person or partnership, the Bidder has filed with the Secretary of State a Power of Attorney designating the Secretary of State as the Bidder's agent for the purpose of accepting service of summons in any action;

5.2.2.10 Any prior rejections of a Bid submitted by the Bidder on a public project.

5.2.3 Failure to timely submit the requested information may be grounds for rejecting the Bid.

5.2.4 The right is reserved to reject Bids where an investigation of the available evidence or information does not satisfy the Owner that the Bidder is a responsible Bidder.

5.2.5 Bids which contain qualifications or conditions that are contrary to the text or intent of the Bidding Documents, and which are inserted in the Bid or submitted subsequent to the Bid opening for the purpose of limiting or otherwise qualifying the obligations of the Bidder, outside of the text or intent of the Bidding Documents, may be subject to disqualification.

5.2.6 The Owner 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 its obligations to subcontractors, material persons, or employees.

5.2.7 The Owner reserves the right to waive, or to allow any Bidder a reasonable opportunity to cure, a minor irregularity or technical deficiency in a Bid, provided the irregularity or deficiency does not affect the Bid amount or otherwise give the Bidder a competitive advantage and provided that the Bidder is otherwise responsive. The Owner reserves the right to reject bids that are not responsive.

5.2.8 The Bidder authorizes the Owner and its representatives to contact the owners and professionals (including but not limited to architects, engineers and construction managers) on projects on which the Bidder has worked. Bidder shall provide full contact information for such owners and professionals, and Bidder authorizes such owners and professionals to provide the Owner with a candid evaluation of the Bidder's performance. By submitting its Bid, the Bidder agrees that if it or any person, directly or indirectly, on its behalf or for its benefit brings an action against any of such owners or professional or the employees of any of them as a result of or related to such candid evaluation, the Bidder will indemnify and hold harmless such owners and professionals and the employees of any of them from any claims whether or not proven that are part of or are related to such action and from all legal fees and expenses incurred by any of them arising out of or related to such legal action. This obligation is expressly intended for the benefit of such owners and professionals, and the employees of each of them.

5.3 ACCEPTANCE OF BID (AWARD)

5.3.1 Subject to the right of the Owner to reject each and every Bid, the Owner will award the Contract for the Work to the lowest responsible Bidder. In determining which Bid is the lowest responsible Bid, the Owner may take into consideration not only the amount of the Base Bid and the Bids for any Alternate the Owner determines to accept but such of the following criteria as Owner, in its discretion, deems appropriate, and Owner may give such weight thereto as it deems appropriate:

5.3.1.1 The Bidder's financial condition and ability to complete the Contract successfully without resort to its surety;

5.3.1.2 The Bidder's prior experience, including experience with similar work on comparable or more complex projects;

5.3.1.3 The management skills of the Bidder, including the competency and experience of the Bidder's proposed supervisory and management staff and the capability of the Bidder to construct and manage the entire Project, including but not limited to the plumbing, fire protection, heating, ventilating and air conditioning and electrical branches or classes of the Work;

5.3.1.4 The Bidder's prior history for the successful and timely completion of projects;

5.3.1.5 The Bidder's equipment and facilities;

5.3.1.6 The adequacy, in numbers and experience, of the Bidder's work force to complete the Contract successfully and on time;

5.3.1.7 The Bidder's prior experience on other projects of the Owner, including the Bidder's demonstrated ability to complete its work on these projects in accordance with the Bidding Documents and on time;

5.3.1.8 The Bidder's history of compliance with federal, state, and local laws, rules, and regulations;

5.3.1.9 A Bidder who submits a Bid for Work as a mechanical contractor or which includes mechanical contracting (i.e., electrical, plumbing, hydronics, refrigeration or heating, ventilating and air conditioning) shall submit evidence of licensure of the Bidder or applicable subcontractor by the Ohio Construction Industry Licensing Board;

5.3.1.10 The Owner's prior experience with the Bidder's surety;

5.3.1.11 The Bidder's interest in the Project as evidenced by its attendance at any pre-bid meetings or conferences for Bidder;

5.3.1.12 The Bidder's ability to work with the Owner, Architect and other Project personnel as a willing, cooperative and successful team member;

5.3.1.13 The Bidder shall certify it has not had a professional license revoked in the past five years in Ohio or in any other state;

5.3.1.14 The Bidder shall certify it has not been debarred from any public contract, federal, state or local, in the past five years;

5.3.1.15 Other essential factors as deemed appropriate by the Owner;

5.3.1.16 The foregoing information with respect to each of the subcontractors and suppliers that the Bidder intends to use on the Project.

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 as promptly as possible but no later than 48 business hours after Bid opening a statement of the Bidder's qualifications. Unless a qualifications statement is contained in the Project manual, Bidder shall use the AIA A305 form. Bidder shall thereafter promptly provide to the Architect no later than 24 business hours after request such additional information as the Architect may reasonably request regarding the Bidder's responsibility.

6.2 SUBMITTALS

6.2.1 The Bidder shall within 48 hours after Bid opening, or such longer time as may be permitted by Owner, furnish to the Owner through the Architect in writing the following information. Failure to submit this information within the required time may be grounds for rejection of the Bid:

- .1 a designation of the Work to be performed with the Bidder's own forces;
- .2 names of the manufacturers, products, and the suppliers of principal items or systems of materials and equipment proposed for the Work;
- .3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work;
- .4 the list of all proposed Subcontractors and suppliers; and
- .5 the breakdown of the labor and material for the Project, including the sum thereof.

6.2.2 The Bidder will be required to establish to the satisfaction of the Owner the reliability and responsibility of the persons or entities proposed to furnish materials and perform the Work described in the Bidding Documents.

6.2.3 Prior to the execution of the Contract, the Owner will notify the Bidder in writing if, after due investigation, the Owner has reasonable objection to a person or entity proposed by the Bidder. If the Owner has reasonable objection to a proposed person or entity, the Bidder shall submit an acceptable substitute person or entity at no additional cost to Owner.

6.2.4 Persons and entities proposed by the Bidder and to whom the Owner has 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.

6.3 NOTICE OF INTENT TO AWARD

6.3.1 The Owner shall notify the apparent successful Bidder of the Owner's intent to award the Bid of the Bidder. Following such notice, the Bidder shall submit the information listed in Section 8.4 as well as such additional information as required by Owner. The Owner reserves the right to rescind the notice if the Owner determines the notice was issued in error. The failure to submit required information or to meet the conditions specified in Section 8.4 herein on a timely basis may result in the determination that the Bidder is not the lowest responsible Bidder.

6.3.2 It is understood that notification of the Owner's intent to award does not constitute the formation of a Contract between Owner and Bidder, and it is further understood that acceptance by the Owner's governing body of the Bidder's Bid and the execution of a formal written Agreement by both the Owner and Bidder, which Agreement must contain a fiscal officer certificate as required by statute, are conditions to the formation of a Contract.

ARTICLE 7. FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on the Form of Agreement Between Owner and Contractor as contained in the Bidding Documents.

ARTICLE 8. SUPPLEMENTAL BIDDING INFORMATION

8.1 Communications for the administration of the Contract shall be as set forth in the Contract and, in general, shall be through the Architect.

8.2 If the Owner and a Bidder enter into a contract within 60 days of the Bid opening, the Contractor shall pay any and all material, labor or Subcontract cost increases which have occurred since the Bid opening. Contracts entered into beyond the 60-day period may contain additional amounts for cost increases if the cause for delay is not the fault of the Contractor.

8.3 By submitting a Bid, the Bidder represents that the Bidder is not subject to a finding for recovery under Ohio Revised Code Section 9.24, or that Bidder has taken the appropriate remedial steps required under Ohio Revised Code Section 9.24, or otherwise qualifies under this section.

8.4 Prior to the signing of a Contract, the successful Bidder shall furnish:

8.4.1 Certificates of insurance meeting the requirement of the Contract.

8.4.2 Performance and payment bond (if required by, and not already provided in accordance with, Section 4.2 herein).

8.4.3 Ohio Workers' Compensation Certificates.

8.4.4 If a Bidder is a foreign corporation (e.g., not incorporated under the laws of Ohio) it must submit a Certificate of Good Standing from the Ohio Secretary of State showing the right of the Bidder to conduct business in the state of Ohio.

8.4.5 If a Bidder is an individual or partnership, nonresident of the State, it must submit a Power of Attorney designating the Ohio Secretary of State as the Bidder's agent for accepting service of summons in any action brought under ORC Section 153.05 or under ORC Sections 4123.01 to 4123.94, inclusive.

8.4.6 Tax affidavit (Ohio Revised Code Section 5719.042).

8.4.7 Proof of enrollment in good standing in the Ohio Bureau of Workers' Compensation Drug-Free Workplace Program or an equivalent program in accordance with Ohio Revised Code Sections 153.03 to 153.031.

8.5 The award of the Contract and the execution of the Contract are based upon the expectation that the lowest responsible Bidder will comply with the requirements of Section 8.4. Noncompliance with the requirements within five (5) days of the date that the Bidder is notified of the notice of intent to award the Contract in accordance with Section 6.3 herein shall constitute a failure of the Bidder to execute the Contract and be cause for the Owner to cancel the award to the Bidder and to award the Contract to another Bidder which the Owner determines is the next lowest responsible Bidder, or resubmit the Contract for bidding, at the discretion of the Owner. The Owner may extend the time for compliance with the conditions for good cause shown. No extension shall operate as a waiver of the conditions precedent for execution of the Contract.

DRAFT 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 «2026»
(In words, indicate day, month and year.)

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

[Board of Education of the Dublin City School District](#)
[6371A Shier Rings Road](#)
[Dublin, Ohio 43016](#)

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

« »
« »
« »
« »

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

[2027 Roof Replacement at Wright Elementary School](#)

The [professional design firm providing architectural or engineering services for the Project \(hereinafter referred to collectively as the “Architect”\)](#):
(Name, legal status, address and other information)

[Mays Consulting & Evaluation Services, Inc.](#)
[201 Pennsylvania Avenue](#)
[P.O. Box 1020](#)
[Delaware, Ohio 43015](#)

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.

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.

ELECTRONIC COPYING of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

TABLE OF ARTICLES

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~~EXHIBIT A — INSURANCE AND BONDS~~

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, [Bidding Requirements](#), 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. [In the event of inconsistencies within or between parts of the Contract Documents, the Contractor shall provide the better quality or greater quantity of Work or comply with the more stringent requirement.](#)

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents [and reasonably inferable](#), 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.)

« ☐ »

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.

[☐] By the following date: «August 1, 2027»

§ 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
<input type="text"/>	<input type="text"/>

§ 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 current funds 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
<input type="text"/>	<input type="text"/>

§ 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
<input type="text"/>	<input type="text"/>	<input type="text"/>

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

Item	Price
<input type="text"/>	<input type="text"/>

§ 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)
<input type="text"/>	<input type="text"/>	<input type="text"/>

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

«§ 4.5.1 If the Contractor shall fail, neglect, and/or refuse to attain Substantial Completion of the Work by the date set forth in Section 3.3.1, Contractor shall be subject to liquidated damages (not a penalty) at the rate set forth below per calendar day for the total number of days the portion of that Work is delayed beyond the required Substantial Completion date:»

LIQUIDATED DAMAGES

<u>Contract Sum</u>	<u>Dollars Per Day</u>
<u>\$100,000.00 or less</u>	<u>\$250.00</u>
<u>\$100,000.01 to \$500,000.00</u>	<u>\$500.00</u>
<u>\$500,000.01 to \$2,000,000.00</u>	<u>\$1,000.00</u>
<u>\$2,000,000.01 to \$5,000,000.00</u>	<u>\$2,000.00</u>
<u>\$5,000,000.01 to \$10,000,000.00</u>	<u>\$2,500.00</u>
<u>More than \$10,000,000.00</u>	<u>\$3,000.00</u>

Such liquidated damages are hereby agreed to be a reasonable pre-estimate of damages the Owner will incur as a result of delayed completion of the Work and shall be in addition to any other remedies available to Owner. The Owner may deduct liquidated damages from any unpaid amounts then or thereafter due Contractor. Any liquidated damages not so deducted shall be payable by the Contractor to the Owner upon demand. Liquidated damages are not intended to compensate the Owner for any damages the Owner incurs on account of any direct damages and claims attributable to the Contractor that are brought by others, including Separate Contractors.

§ 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 Applications for Payment submitted to the Owner and the Architect by the Contractor, such other supporting information and documentation as the Owner and Architect may require, 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. The Contractor shall utilize AIA Document G-702, Application and Certificate for Payment unless a different form is designated by Owner or Architect.

§ 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 and all supporting information and documentation is received by the Architect not later than the ~~«fifth»~~ day of a month, the Owner shall make payment of the amount certified to the Contractor not later than thirty (30) days following receipt by the Architect ~~the «last» day of the «» month.~~ 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 ~~«thirty»~~ («30») 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. The Contractor shall utilize AIA Document G-703 in submitting its schedule of values unless a different form is designated by Owner or Architect.

§ 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 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.)

«Retainage shall be governed by the requirements of Ohio Revised Code Chapter 153.

(a) Labor. Payments for labor performed will be at the rate of ninety six percent (96%) of the amount set forth in the Contractor's Application for Payment and approved by the Architect.

(b) Materials and Equipment. There shall be paid to the Contractor a sum at the rate of ninety-two percent (92%) of the invoice costs, not to exceed the scheduled value, of material delivered on the site of the Work, or suitably stored off site. The balance of the scheduled value will be payable when the materials and equipment are incorporated into the Project and accepted by Owner. The Contractor shall be paid at the rate of one hundred percent (100%) of the scheduled value for materials incorporated into the Project. Incorporated into the Project means such materials and equipment are installed and conform to the requirements of the Project. Partial or full payment to the Contractor for material, equipment, or Work in place shall not start any applicable warranty period.

(c) It shall be within the Owner's discretion to determine the type of investment account for placement of retainage, and interest earnings payable to the Contractor on the retainage is limited to just interest accrued on that retainage in the investment account selected by Owner.

(d) No Subcontractor shall be paid at a rate lower than the rate being paid to the Contractor under this Section 5.1.7.1.»

§ 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.)

«N/A»

§ 5.1.7.2 ~~[intentionally Deleted]. 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.)

«Owner may continue to withhold retainage in an amount reasonably necessary to assure final completion of the Work.»

§ 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. ~~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.)

«N/A» % «N/A»

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.

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

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§ 6.2 Binding Dispute Resolution

For any ~~Claim~~ dispute 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

☐ 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.)

«N/A – there shall be no termination fee.»

§ 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 modified, amended or supplemented by the Owner or other provisions of the Contract Documents.

§ 8.2 The Owner’s representative:

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

Jeff Stark, Chief Operating Officer
Dublin City School District»
6371A Shier Rings Road
Dublin, Ohio 43016
Phone: (614) 760-4323
E-mail: stark_jeff@dublinschools.net

§ 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 [AIA Document A201–2017](#) ~~AIA Document A101™ 2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds,~~ and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds [meeting the requirements of Ohio Revised Code Section 153.54 and elsewhere in the Contract Documents.](#) ~~as set forth in AIA Document A101™ 2017 Exhibit A, and elsewhere in the Contract Documents.~~

§ 8.6 ~~[Intentionally Deleted]. Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with AIA Document E203™ 2013, Building Information Modeling and Digital Data Exhibit, if completed, 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:

~~§ 8.7.1 Award of Subcontracts and Other Contracts for Portions of the Work~~

~~§ 8.7.1.1 Unless otherwise required by the Contract Documents or the Bidding Documents, within seven (7) days after the date of commencement of the Work, the Contractor shall submit the names of the Subcontractors, persons or entities it proposes to use, including those who are to furnish materials or equipment, the subcontract amount, and a list of such materials or equipment including the manufacturer thereof. The Architect will promptly reply to the Contractor in writing stating whether or not the Owner or the Architect has reasonable objection to any such Subcontractor, person or entity. Copies of bids or other proposals from such Subcontractors, persons or entities shall, upon request of the Owner or Architect, be submitted to the Owner and the Architect.~~

~~§ 8.7.1.2 The Contractor shall not contract with a proposed Subcontractor, person or entity to whom the Owner or Architect has made reasonable and timely objection as not responsible. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.~~

~~§ 8.7.1.3 If the Owner or Architect has reasonable objection to a Subcontractor, person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection.~~

~~§ 8.7.1.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution. The Contractor shall notify the Owner and the Architect of the proposed substitution of a Subcontractor, person, or entity a minimum of 10 days prior to the proposed change. The Owner may require the Contractor to change a Subcontractor, person or entity previously approved.~~

§ 8.7.2 Progress Meetings

←→

§ 8.7.2.1 The Architect may, as Architect deems necessary, schedule progress meetings for all Contractors. The purpose of the progress meeting is to review progress in the Work, discuss anticipated progress during the following weeks, and review critical operations and existing and potential problems. The Contractor shall attend and shall be represented at every progress meeting by a person authorized with signature authority to make decisions regarding possible modification of the Contract Documents, and the Contractor shall have any of the Contractor's Subcontractors and material suppliers attend the progress meeting as deemed advisable by the Contractor or as requested by the Architect.

§ 8.7.3 If all or part of any funds of the Contractor that are held by the Owner, whether it be retainage, escrowed funds, unpaid balance of the Contract Sum or otherwise, should be attached, garnished or levied upon under any order of court, or if the delivery thereof shall be stayed or enjoined by any order of court, or if any other writ, order, judgment, or decree shall be made or entered by any court affecting the held funds, or any part thereof whether with or without jurisdiction, and in case Owner obeys and complies with any such writ, order judgment, or decree, Owner shall not be liable to the Contractor, its successors, or assigns, and Contractor shall indemnify and hold Owner

harmless for its compliance with such writ, order, judgment or decree, notwithstanding that such writ, order, judgment or decree be subsequently reversed, modified, annulled, set aside, or vacated.

§ 8.7.4 Contractor shall adhere to the Owner's *Vendor Criminal History Record Check* requirements including certification on Contractor's letterhead the names of individuals who will be working on Owner property and who meet the requirements of the *Vendor Criminal History Record Check* requirements.

§ 8.7.5 Limitations on a Subcontractor's overhead and profit for increases or decreases in the cost of its portion of the Work shall be 15% of the sum of the Subcontractor's costs that are associated with that changed Work.

§ 8.7.6 The Contractor's fee for adjustment of the Contract Sum on account of a change in the Work shall not exceed ten percent (10%) of the sum of the costs described in Section 8.7.5 herein and Sections 7.3.4.1 through 7.3.4.6 of AIA Document A201-2017 that are associated with that changed Work provided however that the Contractor shall not assign any portion of the Work to another person or entity whereby the Contractor would benefit directly or indirectly from the double application of charges for overhead and profit.

§ 8.7.7 With respect to Section 7.3.4 of the General Conditions, rental rates for Contractor-owned equipment shall not exceed one hundred percent (100%) of the cost listed by the current edition of the Associated EquipmentWatch's *AED Green Book* heavy equipment rental rates, or if no such cost is listed, the standard rental rate paid at the place of the Project.

§ 8.7.8 On a minimum of a weekly basis, or otherwise as agreed to by the Owner, the Contractor shall submit written progress reports to the Owner and Architect, showing percentages of completion, activities in progress and expected completion, activities to be started or finished, and other information required by the Architect or Owner.

§ 8.7.9 Under no circumstances will the Contractor propose to use any materials or equipment which is not specified, and the failure by the Owner or Architect to object to materials or equipment which are not specified shall not constitute the approval of them.

§ 8.7.10 Owner will provide to Contractor, upon request, a completed State of Ohio Sales and Use Tax Construction Contract Exemption Certificate.

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- .1 This modified AIA Document A101™-2017, Standard Form of Agreement Between Owner and Contractor
- .2 [Intentionally Deleted] AIA Document A101™-2017, Exhibit A, Insurance and Bonds
- .3 Modified AIA Document A201™-2017, General Conditions of the Contract for Construction as contained in the Project Manual dated
- .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.)

«N/A»

- .5 Drawings

Number

Title

Date

- .6 Specifications

Section

Title

Date

Pages

- .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.)

[«N/A»] AIA Document E204™-2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017 incorporated into this Agreement.)

« »

[«N/A»] The Sustainability Plan:

Title	Date	Pages

[«N/A»] 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.)~~

« »

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

OWNER (Signature)

«Brian Kern, Treasurer»

(Printed name and title)

CONTRACTOR (Signature)

« » « » « »

(Printed name and title)

CERTIFICATE (Section 5705.41, R.C.)

I certify that the money required to meet the obligations of the Board of Education during the current fiscal year under the Agreement has been lawfully appropriated for those purposes and is in the treasury or in the process of collection to the credit of an appropriate fund, free from any previous encumbrances. This Certificate is given in compliance with Section 5705.41 of the Revised Code.

By:

Brian Kern, Treasurer, Board of Education

Dated: _____, 2026





AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

2027 Roof Replacement at Wright Elementary School

THE OWNER:

(Name, legal status and address)

Board of Education of the Dublin City School District
6371A Shier Rings Road
Dublin, Ohio, 43016

THE PROFESSIONAL DESIGN FIRM PROVIDING ARCHITECTURAL OR ENGINEERING SERVICES FOR THE PROJECT ("THE ARCHITECT"):

(Name, legal status and address)

Mays Consulting & Evaluation Services, Inc.
201 Pennsylvania Avenue
P.O. Box 1020
Delaware, Ohio 43015

ADDITIONS AND DELETIONS:

The author of this document may have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes 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 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™–2017, Guide for Supplementary Conditions.

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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 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.

§ 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 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, 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.

§ 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.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary and reasonably inferable for the proper execution and completion of the Work by the Contractor, whether or not expressly shown or described. 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.

§ 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 The terms "knowledge," "recognize," and "discover," their respective derivatives, and similar terms in the Contract Documents, as used in reference to the Contractor, shall mean that which the Contractor knows (or should know), recognizes (or should recognize) and discovers (or should discover) in exercising the care, skill, and diligence required by the Contract Documents. Analogously, the expression "reasonably inferable" and similar terms in the Contract Documents shall be interpreted to mean reasonably inferable by a contractor exercising the care, skill, and diligence required of the Contractor by the Contract Documents.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined or (2) the titles of numbered articles.

§ 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. The use of the word "including," when following any general statement, term, or matter, shall not be construed to limit such statement, term, or matter to the specific items or matters set forth immediately following such word or to similar items or matters, whether or not non-limiting language (such words as "without limitation," or "but not limited to," or words of similar import) is used with reference thereto, but rather shall be deemed to refer to all other items or matters that could reasonably fall within the broadest possible scope of such general statement, term, or matter. All personal pronouns used in this Contract, whether used in the masculine, feminine, or neuter gender, shall include all other genders; and the singular shall include the plural and vice versa. Titles of articles, sections, and subsections are for convenience only and neither limit nor amplify the provisions of the Contract.

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

§ 1.5.1 Unless otherwise indicated in the agreement between the Owner and the Architect, 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 retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and 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 the 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 suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Section 1.7, 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 suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.5.3 The Owner alone owns all Project-related documents, including those in electronic form, prepared by the Contractor and Subcontractors, and every right, title, and interest therein from the moment of creation. The Contractor must execute and deliver and cause its employees and agents and all Subcontractors to execute and deliver to the Owner any transfers, assignments, documents, or other instruments (if any) necessary to vest in the Owner complete right, title, interest in and ownership of the Contractor's documents. The Contractor may retain

copies, including reproducible copies, of the Contractor's documents for information, reference, and performance of the Work. The submission or distribution of the Contractor's documents to meet official regulatory requirements or for similar purposes in connection with the Project is not a waiver of the Owner's reserved rights in the Contractor's documents. Any unauthorized use of the Contractor's documents shall be at the sole risk of the entity making the unauthorized use.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The Owner and Contractor acknowledge and reasonably expect that they will provide or cause to be provided electronic files to each other, including, but not limited to, Revit, Computer-Aided Design ("CAD") or Building Information Modeling ("BIM") files (collectively "Electronic Files"), and that they will receive Electronic Files from and provide Electronic Files to the Architect, to facilitate the design and construction of the Project consistent with current practices and customs in the construction industry. The Owner and Contractor acknowledge that the use of Electronic Files involves risks not generally associated with the use of paper documents. Those risks include, for example and without limitation, alteration (inadvertent or intentional) and deterioration, both of which may not be readily apparent through casual observation. The Owner and Contractor do not warrant to each other that any Electronic File they provide to each other or that they receive from or provide to the Architect (1) was not altered through transmission; (2) is compatible with the recipient's computer system or software; (3) will not be altered through degradation of the recipient's storage media; or (4) is suitable for conversion/translation to and subsequent use in a system or format other than the Electronic File's original system or format. Before relying on any Electronic File it receives, the recipient is responsible for verifying that the Electronic File was not altered through transmission, degradation of the recipient's own storage media, or other causes. If the recipient of an Electronic File converts/translates the Electronic File from its original system or format to an alternate system or format, the recipient assumes the risk that the conversion/translation created errors in the converted/translated file. Owner and Contractor shall each maintain and operate its own computer systems and storage media in a commercially reasonable way and take reasonable steps to prevent errors in and deterioration of the Electronic Files it creates, provides, and receives. In the event of a discrepancy between information contained in a paper version of a document and the Electronic File of that document, the paper version will govern. This Section does not relieve the Contractor of its responsibility for the preparation, completeness, or accuracy of the Contractor's documents. The parties shall also follow any other protocols governing the development, transmission, exchange and use of Instruments of Service, Electronic Files or any other information or documentation in digital form as may be agreed upon in writing by the Owner, Contractor and Architect.

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 matters requiring the Owner's approval or authorization provided that the representative shall have only such authority as is expressly authorized by the Owner's governing board. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor a notice of commencement as may be required by Ohio Revised Code Chapter 1311. The Contractor shall provide a copy of any notice of commencement to its Subcontractor and any known Sub-subcontractors. The Contractor will immediately deliver to the Architect and Owner copies of notices of furnishing that Contractor receives.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 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.

§ 2.3.2 The Owner shall retain a professional design firm lawfully licensed to practice architecture or engineering, or an entity lawfully practicing architecture or engineering, 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.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall, if necessary for the execution of the Work, furnish surveys or other information 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.

§ 2.3.5 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 reasonably necessary 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.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 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. The rights of the Owner under this Section are in addition to Owner's rights and remedies contained elsewhere in the Contract Documents.

§ 2.5 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 notice from the Owner to correct such default or neglect, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. If such default or neglect results in an emergency and/or a threat to the safety of persons or property, the Contractor shall immediately commence and continue without interruption using best efforts to correct such default or neglect upon receipt of written or oral notice thereof or otherwise becoming aware, and if Contractor fails to do so, then Owner may correct such default or neglect. The Owner or 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 current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15. The rights of Owner under this Section are in addition to the rights of Owner as set forth in Articles 12 and 14 herein.

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, if required 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 Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its 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.

§ 3.1.4 The Contractor shall attend preconstruction meetings with representatives of the Architect and Owner. The Contractor shall have any of its Subcontractors and suppliers at the meeting as necessary or as requested by the Architect. The preconstruction meetings will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the Project. The date, time, and place of the meetings will be designated by the Owner.

§ 3.1.5 If the Project is designed and constructed with a Sustainable Objective identified in the Agreement for the Project, the Contractor shall perform the Work for which the Contractor is responsible in furtherance of the Sustainable Objective and shall provide submittals certifying achievement of the Sustainable Objective criteria for verification by a third party, and the submittals shall be provided in accordance with any deadlines set forth in the schedule and Contract Documents. In the absence of schedules or deadlines, the Contractor will submit the documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or Separate Contractors. The Contractor shall include with any requests for substitution any potential effect the substitution may have on the Sustainable Objective. The Contractor grants to the Architect and Owner the right to submit the Contractor’s submittals to the rating system as required in order to achieve or maintain the Sustainable Objective.

§ 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. By executing the Agreement, the Contractor certifies that it has evaluated and satisfied itself as to the conditions and limitations under which the Work is to be performed, including, without limitation, (i) the location, condition, layout, and nature of the Project site and surrounding areas, including but not limited to utilities, access restraints to the Project site and access restraints to neighboring facilities, (ii) generally prevailing climatic conditions, (iii) anticipated labor supply and costs, (iv) availability and cost of materials, tools, and equipment, and (v) other similar issues. The Contractor shall be solely responsible for providing a safe place for the performance of the Work. The Owner shall not be required to make any adjustment in either the Contract Sum or the Contract Time in connection with any failure by the Contractor or any Subcontractor to have complied with the requirements of this Section 3.2.1.

§ 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 2.3.4, 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. The Contractor shall satisfy itself as to the accuracy of all grades, elevations, dimensions, and locations. In all cases of interconnection of its Work with existing or other work, Contractor shall verify at the site all dimensions relating to such existing or other work. Any errors due to the Contractor’s failure to so verify all such grades, elevations, dimensions, or locations shall be promptly rectified by the Contractor without any additional cost to the Owner. These obligations are for the purpose of facilitating coordination and construction by the Contractor, for determining that the Work is constructible, for determining if the Work of the Contractor is coordinated in the Contract Documents with the Work of Separate Contractors under a separate contract with the Owner, and for verifying that

field conditions, including the Work of other Contractors, are consistent with the information in the Contract Documents and ready for Work and are not for the purpose of discovering errors, omissions, or inconsistencies in the design information contained 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, and proceeding without reporting such nonconformity shall make the Contractor responsible for any costs and expenses incurred by the Contractor related to the claimed deficiencies.

§ 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 submit Claims as provided in Article 15, and the time limit for initiating a Claim begins to run on the date of the Architect's issuance. 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, subject to Section 15.1.7, 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 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect for evaluating and responding to the Contractor's requests for information that are not prepared in accordance with the Contract Documents and/or where the requested information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation.

§ 3.2.6 If the Architect does not specify a form for Contractor to submit a request for information, then Contractor shall utilize the AIA Document G-716.

§ 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. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be 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 notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative 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 or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors, including Sub-subcontractors of any tier, and Contractor shall be responsible for ensuring the performance of the Work regardless of whether the work is performed by the Contractor, a Subcontractor or Sub-subcontractors of any tier. The Contractor shall be responsible for scheduling and coordinating the work of its Subcontractors and suppliers. This section shall apply with equal force and effect regardless of whether any Subcontractors are selected by the Contractor or assigned by the Owner.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work 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, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, storage and other facilities and services necessary for proper execution and completion of the Work, including but not limited to field offices, toilets, other trailers, or buildings, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. The Contractor shall use best efforts to conserve any utilities furnished by Owner.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive. The Contractor shall provide all data, information, regulations and certifications required by Architect and Owner in evaluating the proposed substitution. The Owner shall be entitled to reimbursement from the Contractor for amounts paid for reviewing the Contractor's proposed substitutions and making agreed-upon changes in the Drawings and Specifications resulting from such substitutions.

§ 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.

§ 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 to the requirements of the Contract Documents, will be of good workmanship 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 shall be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, improper alterations to the Work except when 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 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. Owner will provide to Contractor, upon request, a completed State of Ohio Sales and Use Tax Construction Contract Exemption Certificate.

§ 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 as well as for all other permits, fees, licenses, and inspections by utilities or 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 14 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 be made 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, stating the reasons. If Contractor disputes the Architect's determination or recommendation, the Contractor may submit a Claim as provided in Article 15, and the time limit for initiating a Claim related to subsurface, concealed or unknown conditions begins to run on the date the Architect issues its determination or recommendation.

§ 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, not in the allowances, and shall not be chargeable against the allowance; 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. The Contractor shall obtain a Change Order before incurring any costs in excess of an allowance.

§ 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 If not already approved in advance by the Owner, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Owner or 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 Owner or 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. The Owner shall have the right to require the Contractor to remove a superintendent from the Project whose performance is not satisfactory, and to replace the superintendent with a superintendent who is satisfactory to the Owner.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 If not already provided to the Owner in accordance with the Agreement, the Contractor, promptly after execution of the Agreement or Guaranteed Maximum Price Amendment, shall 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 dates of Substantial Completion and final completion; (2) an apportionment of the Work by construction activity; (3) identifying the critical path of the Work; (4) a graphic representation of activities and events that will occur during performance of the Work; (5) identifying the crew size and total resource hours for each activity in the schedule; (6) identifying disruptions and shutdowns; and (7) 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. If the schedule is not accepted by the Owner and Architect, the Contractor shall promptly revise the schedule in accordance with the recommendations of the Owner and Architect and resubmit to Owner and Architect for acceptance. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.1.1 In certain occupied buildings, tasks might be of such a nature that noise and vibration cannot be tolerated. In such spaces, Work shall be scheduled for other than normal working hours. The Contractor is cautioned that weekend or overtime work, if required to avoid such noise and vibration, shall be performed at no additional cost. Permission to work other than standard hours shall be received from the Owner prior to the occurrence. Weekend and overtime Work shall be reflected in the construction schedule.

§ 3.10.1.2 In the event that critical path activities, schedule milestone completion dates, Substantial Completion or final completion dates will not be met, Contractor shall devise an affirmative time recovery plan acceptable to the Owner and Architect to avoid or minimize any delay. Such a plan may include, without limitation, increasing the Contractor's workforce in such quantities as will eliminate the backlog of Work, increasing the number of working hours per shift, shifts per workday, workdays per week, the amount of construction equipment, or any combination thereof, rescheduling of activities to achieve maximum practical concurrency of Work efforts and, if appropriate, time extensions.

§ 3.10.1.3 Unless otherwise provided in the Agreement, or unless different intervals are agreed to by the Owner, the Contractor shall update the construction schedule bi-weekly consistent with time limits established under the Contract Document and shall obtain the Owner's and Architect's approval. The updated construction schedule shall show all changes to the previous schedule. The updated construction schedule shall be signed by the Contractor and shall serve as an affirmation that the Contractor agrees to and can meet the requirements of the updated construction schedule.

§ 3.10.1.4 The Contractor shall participate with Separate Contractors and the Owner in reviewing their construction schedules and the Contractor shall coordinate its Work with the activities of the Owner's own forces and of Separate Contractors. The Contractor shall make any revisions to the construction schedule in order to coordinate its Work as required by this Section.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule 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 perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, the approved Shop Drawings, Product Data, Samples, and similar required submittals, accurate, current and reproducible as-built drawings (showing Work as actually performed, variations from the original Contract Documents and the location of any concealed and/or buried items, utilities, mechanical or electrical systems and components), and accurate records of any changes made to the Specifications, noting particularly any variation from manufacturer's installation instructions and recommendations. Contractor shall also maintain at the site: a daily log in which it has recorded Project related information, including but not limited to, weather, number of workers on site, identification of equipment, Work accomplished, problems encountered and other similar relevant Project data; manufacturers' installation, operating and/or maintenance instructions or requirements, certificates and warranties; any special guarantees or warranties required by the Contract Documents; all the Contractor's communications, including but not limited to letters, memoranda, e-mails, invoices and bills of lading, arising out of or related to the Project with the Architect, Owner, and/or Subcontractors, suppliers and/or employees; assignment of all guarantees or warranties from Subcontractors, vendors, suppliers or manufacturers; a list of the names, addresses and telephone numbers of all Subcontractors and any other persons providing guarantees and warranties; and quality control procedures and documents related thereto. These shall be in electronic form or paper copy, 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 how 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. In the event of conflicts between submittals and the Contract Documents, the Contract Documents take precedence and govern the Work. Review by the Architect is subject to the limitations of Section 4.2.7. 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 submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors. The Contractor shall pay all costs incurred by the Architect and Owner for attendant delay, interference, hindrance or disruption of the Project due to (i) review of submittals out of sequence from the agreed-upon schedule provided that the Architect has demonstrated that it has been financially impacted and/or (ii) due to excessive re-submittals without fault of the Architect. Unless otherwise provided in the Contract Documents, re-submittals in excess of one (1) without fault of the Architect or Owner shall be deemed excessive. If the Shop Drawings or other submittals show variations from the requirements of the Contract Documents, the

Contractor shall specify such variations in the Contractor's letter of submittal to the Architect accompanying the submittal. Variations must be approved in writing.

§ 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 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 the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect 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. The review and approval of a separate item shall not indicate approval of the assembly in which the item functions.

§ 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 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.

§ 3.12.10.1 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, and the Contractor shall confirm with the Architect the appropriate performance and design criteria that such services shall satisfy. The Contractor shall be entitled to reasonably rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents as confirmed by the Contractor with the Architect. The Contractor shall cause such services or certifications to be provided by an appropriately 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 and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the 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.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably

encumber the site with materials or equipment. Protection of construction materials and equipment stored at the Project site from weather, theft, damage, and all other adversity is solely the responsibility of the Contractor. The Contractor shall use commercially reasonable efforts to minimize any interference with the occupancy or beneficial use of (i) any areas and buildings adjacent to the site of the Work and (ii) the Project site and any buildings located thereon in the event of partial occupancy. Without prior approval of the Owner, the Contractor shall not permit any workers to use any existing facilities at the Project site, including, without limitation, lavatories, toilets, entrances, and parking areas other than those designated 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, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by 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 or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its 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, dirt, dust and 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 Project except that the Contractor shall give to the Owner any surplus materials that are required by the Contract Documents, but not incorporated into the Project, for future maintenance or repairs. The Contractor shall be responsible for compliance with all requirements regarding notification and disposal of construction demolition debris.

§ 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 and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for 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 an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the 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) and/or a violation of applicable law, but only to the extent caused by the negligent acts or omissions or willful misconduct 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.

§ 3.18.2 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 3.18.1 shall not be limited by any insurance policy provided or required in connection with the Project and/or 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. As between the Owner and Contractor, Contractor waives its immunities as may be applicable under law for purposes of confirming the indemnity obligations of this Agreement. Contractor shall require of its Subcontractors, by appropriate written agreements, similar waivers each in favor of all parties, including the Owner and Contractor; all sub-subcontractors at every tier shall also be bound by and comply with this same requirement in their respective agreements.

§ 3.19 Underground Utility Facilities

§ 3.19.1 The Contractor shall comply with ORC Sections 3781.25 through 3781.32. In addition, before starting excavation or trenching, the Contractor shall determine the location of any underground utilities and notify any public authority or utility having jurisdiction over the Project and secure any required approval. The Contractor shall alert immediately the occupants of any premises near the Work and the Architect as to any emergency that it may create or discover. The Contractor shall notify the operator of the underground facility and the Architect of any break or leak in the utility lines or any dent, gouge, groove, or other damage to such lines made or discovered in the course of excavation.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 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 and Architect. Consent shall not be unreasonably withheld.

§ 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 an Owner's representative during construction until the date the Architect issues the final Certificate for Payment and for such additional periods thereafter as the Owner and Architect may agree. 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. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the 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. The Contractor shall reimburse the Owner for amounts paid to the Architect for site visits that are in addition to what is required of the Architect as described in this Section and that are made necessary by the fault of the Contractor or by defects and deficiencies in the Work.

§ 4.2.3 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 promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not

have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project and the Contractor shall do likewise with respect to direct communications with the Owner. 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 Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work, including those tests and inspections as provided in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made 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, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 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. Review of such submittals 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 the Contract, including but not limited to Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may 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.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 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 the Project representatives shall be as set forth in the agreement between the Owner and Architect.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either 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.

§ 4.2.12 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 rendered in accordance with its standard of care.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be subject to Owner's prior approval.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests 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, including material suppliers. 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 a Separate Contractor or the subcontractors of a Separate Contractor.

§ 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, including material suppliers. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor of any tier or an authorized representative of the Sub-subcontractor.

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

§ 5.2.1 Retention of Subcontractors shall be as set forth in the Agreement.

§ 5.3 Subcontractual Relations

By appropriate written agreement, 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 the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall provide that the Owner is a third party beneficiary of the subcontract agreement and 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. Contractor shall promptly provide to Owner copies of any subcontract agreement along with copies of all bids or other proposals from Subcontractors. The subcontract agreement shall meet the applicable requirements of Ohio Administrative Code 153:1-3.

§ 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; 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 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 and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall lay out and install its Work at such time or times and in such manner as not to delay or interfere with the carrying forward of the Work of Separate Contractors. The Contractor shall afford the Owner and Separate 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 or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor 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 a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate 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.

§ 6.4 Owner's Provided Materials

The Owner may provide materials for Contractor to incorporate into the Project, and the Contractor shall incorporate such materials as part of its Work for the Project. The Contractor shall be fully responsible for and the Contract Sum shall cover, all matters relating to the receipt of materials provided by Owner as if the Contractor were the original purchaser, including but not limited to verifying correct quantities; coordinating purchases; providing, obtaining and managing all warranties and guarantees required by the Contract Documents including assistance to the Owner with the enforcement of such warranties and guarantees; inspection and acceptance of the materials; and loss or damage to the materials following acceptance of the materials by the Owner due to the negligence of the Contractor. The Contractor shall coordinate delivery schedules, sequence of delivery, loading orientation, and other arrangements normally required by the Contractor for the particular material furnished. The Contractor shall provide all services required for the unloading, handling and storage of materials through installation. The Contractor shall determine prior to incorporation into the Work if such materials are patently defective and whether they are in conformity with the Contract Documents (and, if applicable, any specifications provided by the Owner). If the Contractor discovers defects or non-conformities upon such visual inspection, the Contractor shall not utilize such materials in the Contractor's Work and instead shall properly notify the Owner of the defective or nonconforming condition so that repair or replacement of those materials can occur without undue delay or interruption to the Project. If the Contractor fails to perform such inspection and incorporates such defective or non-conforming materials into the Contractor's Work, Contractor shall be responsible for all damages to the Owner resulting from Contractor's incorporation of such materials into the Work. The Contractor shall maintain records of all Owner-provided materials it incorporates into the Work and shall account to the Owner for all Owner-provided materials delivered into the Contractor's or Subcontractor's possession.

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, Contractor, and Architect. 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. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.1.4 The Contractor shall not proceed with any change in the Work without the appropriate written authorization. Except as otherwise provided herein, the Contractor's failure to obtain prior written authorization for a change in the Work shall constitute a waiver by the Contractor of an adjustment to the Contract Sum and/or Contract Time for the related Work. No course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work shall be the basis of any claim to an increase in any amounts due under the Contract Documents or a change in any time period provided for in the Contract Documents.

§ 7.2 Change Orders

§ 7.2.1 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.

§ 7.2.2 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs and consequential damages associated with such change, the cumulative impact of the associated change in the Work in combination with one or more other changes in the Work, and any and all adjustments to the Contract Sum and the Contract Time. The Contractor is not entitled to reserve any rights or take other similar action with respect to a Change Order if the effect or intent of the reservation or action would be to accommodate a further adjustment of the Contract Sum or Contract Times, or both, after the Contractor signs the Change Order. A Change Order signed by the Contractor without any indication of change in the Contract Sum and/or Contract Time indicates the Contractor's agreement that there will be no change in the Contract Sum and/or Contract Time. Unless agreed otherwise by the parties, the Change Order form shall be the AIA Document G-701.

§ 7.2.3 The Contractor shall proportionately increase the amount of its bond whenever the Contract Sum is increased. If notice of any change affecting the Contract is required by a provision of the bond, giving the notice shall be the Contractor's responsibility.

§ 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 or the performance of disputed 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 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Owner or Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an 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 Owner or Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- .1 Costs or credits arising from a change in the quantity of field labor directly involved in the Work, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect. Each of the fringe benefits shall be a separate line item, and the Contractor shall submit documentation supporting the calculation of the amounts for each fringe benefit for each worker. Each of the allowable payroll expenses shall be a separate line item. Costs that shall not be reimbursed include voluntary employee

- deductions (such as but not limited to deductions for charitable donations or U.S. savings bonds) and employee profit sharing;
- .2 Costs of materials, supplies, and equipment, including cost of transportation (based on reasonable delivery charge or per-mile trucking charge for delivery of required materials or equipment), whether incorporated or consumed. The cost or credit for reusable materials (e.g. concrete form lumber, shoring, or temporary enclosures) shall be limited to 33 percent of the material cost for each use;
 - .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others. Downtime due to repairs, maintenance and weather delays shall not be allowed;
 - .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change;
 - .5 Costs or credits arising from a change in the quantity of supervision and field office personnel directly attributable to the change;
 - .6 General Conditions Costs. Any costs or credit arising from a change in the quantity of the Contractor's general conditions costs shall be limited to the extent to which the change is attributable to an associated change in the Contract Time for attainment of Substantial Completion resulting from the change in the Work.

§ 7.3.5 If the Contractor disagrees with the adjustment as determined by the Architect, the Contractor may make a Claim in accordance with applicable provisions of Article 15, and the timeline for initiating a Claim begins to run on the date the Architect issues its final determination.

§ 7.3.6 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.

§ 7.3.7 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.

§ 7.3.8 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 Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order.

§ 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. Disagreements with the Architect's final determination shall be resolved in accordance with Article 15.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the

Contractor waives any adjustment to the Contract Sum or extension of the Contract Time. Unless otherwise designated by the Architect, the form to be utilized by Architect in authorizing minor changes in the Work shall be the AIA Document G-710, Architect's Supplemental Instructions.

§ 7.5 Proposal Requests

§ 7.5.1 The Architect may issue to Contractor at any time a proposal request for a change in the Work, including a change in the Contract Sum and Contract Time (a "Proposal Request"). A Proposal Request is not a Change Order, a Construction Change Directive, an order for a minor change in the Work, or authorization to proceed with the change in the Work described in the Proposal Request. Unless otherwise designated by the Architect, the form to be utilized by Architect for a Proposal Request shall be the AIA Document G709, Proposal Request.

§ 7.5.2 The Contractor shall respond with a proposal to the Architect (a "Proposal") within seven (7) days after receiving the Proposal Request, and the Contractor shall include with its Proposal the Contractor's proposed adjustments to the Contract Sum and Contract Time. The allowable time for the Contractor's response may be extended by written agreement of the Contractor, the Owner and the Architect. Failure to respond within the allowed time frame may result in the Owner proceeding with the work through any other means.

§ 7.5.3 The Contractor shall hold the Proposal valid and open for acceptance for at least thirty (30) days. The acceptance period may be adjusted by mutual written consent of the Contractor and the Owner.

§ 7.5.4 The Owner may accept the Proposal in writing at which point the Contractor's obligations to perform the work as outlined in the Proposal shall become binding. The parties promptly thereafter shall memorialize the Owner's acceptance of the Proposal through a Change Order.

§ 7.6 Request for Change Order

§ 7.6.1 The Contractor may initiate a Change Order request by submitting written notice to the Architect and Owner accompanied by a Proposal meeting the requirements of Section 7.5. If the Owner or Architect reject or do not respond to the Contractor's Change Order request within sixty (60) days following submission, the Contractor may make a Claim in accordance with applicable provisions of Article 15, and the timeline for initiating a Claim begins to run on the sooner of either the date of the rejection or the expiration of the sixty (60) day period.

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 pursuant to 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. Where the term "business day" is used, if the last day of the period falls on a Saturday, Sunday, or a legal holiday, that day shall be omitted and the period shall end on the next day which is not a Saturday, Sunday, or legal holiday.

§ 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, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required 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.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 Subject to other provisions of the Contract, the Contractor will not be entitled to an increase in the Contract Sum and will only be entitled to an extension of the Contract Time on account of delay in the commencement or progress of Work on the critical path of the construction schedule caused by acts of nature or the public enemy, acts or orders of the government not arising from the Contractor's failure to comply with applicable law, fires, floods, weather, and labor disputes beyond the Contractor's control.

§ 8.3.2 Notwithstanding any other provision of the Contract Documents to the contrary, the Contractor shall not be entitled to an increase in the Contract Sum, or an extension of the Contract Time, or both: (i) on account of the impact of any normal adverse weather on any of the Work or on account of the impact of any abnormal adverse weather on Work not on the critical path; (ii) to the extent that a delay occurs concurrently with a delay attributable to the Contractor; or (iii) on account of the delay of any Work not on the critical path.

§ 8.3.3 Notwithstanding any other provision of the Contract Documents to the contrary, the Contractor shall not be entitled to an increase in the Contract Sum or any type of damages on account of a delay in the commencement or progress of Work on the critical path unless (i) the delay is caused by the Owner or (ii) the delay was not authorized or permitted under the Contract.

§ 8.3.4 Claims under this Section 8.3 shall be made in accordance with applicable provisions of Article 15.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 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.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed by twenty percent (20%) or more so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, and unless a different timeline is specified in the Agreement, the Contractor shall submit a schedule of values to the Architect within ten (10) days following the date of commencement of the Work, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values, including changes to the Contract Sum and changes required by the Architect if the Architect subsequently determines the schedule of values to be in any way unreasonable or inaccurate, shall be promptly submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 In accordance with the timelines established in the Agreement, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by (i) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the previous Application for Payment was submitted have been paid or otherwise satisfied; (ii) a current list of the Subcontractors and suppliers showing their respective contract sums, amounts paid, and amounts due; (iii) schedule of all materials and equipment stored on-site; (iv) documentation required for materials and equipment stored off-site; (v) conditional lien waivers and releases from Contractor and from all Subcontractors and suppliers to be paid from the payment resulting from the Application for Payment; (vi) unconditional lien waivers and releases from Contractor and from all Subcontractors and suppliers for which Contractor was required to provide a conditional lien waiver in connection with a prior Application for Payment; and (vii) such other data substantiating the Contractor's

right to payment that the Owner or Architect require, such as copies of requisitions, 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 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 The Contractor's request for storage of materials and equipment off site shall minimally include:

- .1 A list of the fabricated materials consigned to the Project (which shall be clearly identified), giving the place of storage, together with copies of invoices and reasons why materials cannot be delivered to the site.
- .2 Certification that items have been tagged for delivery to the Project and that they will not be used for another purpose.
- .3 A letter from the Contractor's surety indicating agreement to the arrangements and that payment to the Contractor shall not relieve the Contractor of its responsibility to complete the Work.
- .4 Evidence of adequate insurance covering the material in storage, which shall name the Owner as an additional insured.
- .5 Information pertaining to the Contractor's place of storage, the layout and security of the place of storage, and such information that verifies that the materials are securely stored at the place of storage.
- .6 Subsequent Applications for Payment shall itemize the materials and their cost which were approved on previous Applications for Payment and remain in off-site storage.

§ 9.3.3 The Contractor warrants that title 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, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations 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. However, the issuance of a 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 construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and 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 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 9.4.2 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. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a 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, may nullify the whole or a part of a 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 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 suppliers 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.

§ 9.5.2 When the Contractor disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, the Contractor may submit a Claim in accordance with Article 15.

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

§ 9.5.4 If the Contractor disputes a determination by the Architect with regard to a Certificate of Payment, and during any related dispute resolution, litigation, or other proceeding, the Contractor nevertheless shall continue to prosecute the Work.

§ 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 the timeline set forth in Ohio Revised Code 4113.61, 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 [Intentionally Deleted].

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and 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 and suppliers 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 or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to 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 or provided by 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, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier, including but not limited to claims for unjust enrichment. In the event that the Owner receives a claim affidavit in accordance with Ohio Revised Code Chapter 1311 relating to amounts due and unpaid for labor and work performed and material furnished for the Work, the Owner shall detain the amount due and owing from the Contractor unless and until the claim is released and/or discharged as more particularly set forth in said Chapter 1311. Posting a bond or other security discharging a lien shall not relieve the Contractor of its indemnity obligations in this Section.

§ 9.7 Failure of Payment

If the Owner, through no fault of the Contractor, does not pay the Contractor within seven days after the date established in the Agreement, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received provided that Contractor shall not stop Work for non-payment if the Owner initiates the payment process for any undisputed amounts due the Contractor.

§ 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, including all necessary testing and/or startup, and when all required occupancy permits and any other necessary permits and approvals, if any, have been issued, so that the Owner can occupy or utilize the Work for its intended use, subject only to the completion or correction of minor items of Work that will not interfere with or hinder the Owner's use of the Work and areas adjacent to the Project site.

§ 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 or correct all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's 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 Contractor's list, which is not sufficiently complete in accordance with 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. The Contractor shall pay all costs incurred by the Architect, Owner and Separate Contractors for costs due to excessive inspections without fault of the Architect or Owner. Unless otherwise provided in the Contract Documents, inspections to determine Substantial Completion in excess of one (1) without the fault of the Architect or Owner shall be deemed excessive.

§ 9.8.4 When 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; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate (the “punch list”), or, if no timeframe is fixed, then not greater than thirty (30) days from the date of the Certificate. Failure to include an item on the Certificate and punch list does not alter the responsibility of the Contractor to complete or correct deficiencies in the Work in accordance with the Contract Documents. 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 the Certificate. Upon such acceptance, and consent of surety if any, and following certification of an Application for Payment, the Owner shall make payment of retainage as set forth in the Agreement.

§ 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 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 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 in writing, 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 receipt of the Contractor’s notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect 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 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 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 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. The Contractor shall pay all costs incurred by the Architect, Owner and Separate Contractors for costs due to excessive inspections without fault of the Architect or Owner. Unless otherwise provided in the Contract Documents, inspections to determine final completion in excess of one (1) without the fault of the Architect or Owner shall be deemed excessive.

§ 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 the Project (less amounts withheld by Owner) have been paid or otherwise satisfied (unless a different form is agreed to, Contractor shall provide the AIA Document G-706, Contractors Affidavit of Payment of Debts and Claims and AIA Document G-706A, Contractors Affidavit of Release of Liens), (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the insurance will be renewable to cover the period required by the Contract Documents, (4) consent of the Contractor's surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, (6) all documents and items required to be submitted by Contractor in accordance with the Contract Documents which shall include those items set forth in Section 3.1.1 which have not previously been delivered to Owner, (7) unconditional lien waivers and releases from Contractor and all Subcontractors and suppliers; and (8) if required by the Owner, other data establishing payment or satisfaction of obligations to the extent and in such form as may be designated by the Owner. 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, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance 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 lien, claim, security interest, or encumbrance, 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, corrected, 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 the 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;
- .3 terms of special warranties and guarantees required by the Contract Documents;
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment; or
- .5 claims, damages, losses or expenses for indemnification.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a 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's safety program shall be written and a copy maintained at the Project site for inspection, upon request. Neither the Owner nor the Architect accept any responsibility or liability for the safety of the Contractor's employees or for enforcing the Contractor's safety program. Additionally, Contractor shall comply with the Owner's rules, regulations, and policies including, but not limited to, the Owner's safety, health, and infection control policies and programs.

§ 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, a Subcontractor, or a Sub-subcontractor;

- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, benchmarks, monuments, other reference points, and utilities not designated for removal, relocation, or replacement in the course of construction; and
- .4 construction or operations by the Owner and Separate Contractors.

§ 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 implement, 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 the owners and users of adjacent sites and utilities of the safeguards.

§ 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 give Owner and Architect reasonable advance notice thereof and shall 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 and 10.2.1.3 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 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either 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.

§ 10.2.6 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, notice of the 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 and names of witnesses to enable the other party to investigate the matter.

§ 10.2.9 If a Separate Contractor incurs damages resulting from the Contractor's performance of its Work, and the Contractor fails to remedy the damage or to reimburse the Separate Contractor for its damages, then the Owner reserves the right to pay the Separate Contractor suffering the damage and deduct such amounts from the amount due the Contractor.

§ 10.2.10 The Contractor acknowledges that the safety of the public and of the employees, invitees and guests of the Owner is of the utmost importance. While the Contractor is at the Project site, the Contractor will take no action that would jeopardize the safety of the public and of the Owner's employees, invitees or guests and, without the Owner's written approval, shall take no action that would interfere with the Owner's activities. The Owner reserves the right to require the Contractor and its employees to wear identification (subject to applicable safety standards), to stay in designated Work areas at all times while on the Owner's property and to record on a log a person's presence immediately upon entering the Owner's property. The Owner shall have the right to effect the immediate removal of a person from the Project site for failure to wear identification, for being outside a designated work area, for

fraternizing with or engaging in any inappropriate behavior directed toward or in the vicinity of employees, invitees or guests of the Owner or for other good cause shown.

§ 10.2.11 The Contractor shall be enrolled in and remain in good standing in the Ohio Bureau of Workers' Compensation Drug-Free Safety Program or a comparable program approved by the Bureau that meets the requirements of Ohio Revised Code 153.03. Contractor shall comply with and shall require its Subcontractors to comply with the Ohio Bureau of Workers' Compensation's Drug-Free Workplace Program requirements under Revised Code 153.03(E), and Contractor shall include language in its subcontractual agreements mandating that each Subcontractor require Sub-subcontractors to similarly comply with the Ohio Bureau of Workers' Compensation's Drug-Free Workplace Program requirements.

§ 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 or substances. If the Contractor encounters a hazardous material or substance that is concealed or 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 notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain or cause to be obtained the services of a licensed laboratory to verify the 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. The Work in the affected area shall be resumed immediately following the occurrence of any one of the following events: (i) the Owner causes remedial work to be performed that results in the absence of the materials or substances or renders the material or substance harmless as evidenced by a written report which is prepared by an environmental consultant retained by Owner, or (ii) the Owner and the Contractor, by written agreement, decide to resume performance of the Work, or (iii) the Work may safely and lawfully proceed, as determined by an appropriate governmental authority. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum equitably adjusted based on the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 [Intentionally Deleted].

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous 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 hazardous 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. Hazardous materials or substances to be used at the Project site by Contractor shall be identified by a Safety Data Sheet. The Contractor shall assemble all of its applicable Safety Data Sheet in a notebook and submit it to the Architect for its information prior to a hazardous material or substance being brought to the Project site. The Contractor shall maintain all Safety Data Sheet notebooks at the Project site for the duration of the Project.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances 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 [Intentionally Deleted].

§ 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.

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 rated A- or higher by Best Insurance Reports and lawfully authorized to do business in the State of Ohio 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.

§ 11.1.2 The insurance required by Section 11.1.1 shall include and shall be written for not less than the following, or as required by law, whichever coverage is greater.

- .1 Workers' Compensation: Statutory
- .2 Employer's Liability: (1) an each-accident limit of not less than \$1,000,000, (2) a disease each-employee limit of not less than \$1,000,000, and (3) a disease policy limit of not less than \$1,000,000;
- .3 Commercial General Liability ("CGL"): (1) an each-occurrence limit of not less than \$2,000,000, (2) a general-aggregate limit of not less than \$2,000,000, and (3) a products and completed-operations aggregate limit of not less than \$2,000,000. The CGL insurance shall provide at least equivalent coverage for liability arising from premises, operations, independent contractors, products/completed-operations (shall not exclude coverage to the additional insured(s) for bodily injury or property damage), personal and advertising injury, and liability assumed under an insured contract. The CGL insurance shall not exclude coverage for damage to electronic data. The CGL policy shall be endorsed providing equivalent coverage to provide that the general aggregate limit applies separately to each of the insured's projects;
- .4 Automobile Liability: covering all owned, non-owned, and hired vehicles used in connection with the Work: Bodily injury (including death and emotional distress) and property damage with a combined single limit of \$1,000,000 each accident;
- .5 Umbrella/Excess Liability: Such policies shall be supplemented by an umbrella policy of additional protection in the amount of \$5,000,000 aggregate;
- .6 If the Contractor is required to furnish professional services as part of the Work, the Contractor shall maintain Professional Liability Insurance covering performance of the professional services, with policy limits of not less than \$1,000,000 per claim and \$1,000,000 in the aggregate; and
- .7 Pollution Liability: If the Work includes environmentally sensitive, hazardous types of activities (such as demolition, exterior insulation finish systems, asbestos abatement, storage-tank removal, or similar activities), or involves hazardous materials, the Contractor shall maintain a contractor's pollution liability policy with (1) a per-claim limit of not less than \$1,000,000 and (2) an annual-aggregate limit of not less than \$1,000,000, covering the acts, errors and/or omissions of the Contractor for damages (including from mold) sustained by the Owner by reason of the Contractor's performance of the Work. The policy shall have an effective date, which is on or before the date of commencement of the Work.

The Contractor shall maintain required coverages without interruption from the date of commencement of the Work and for not less than five years following Substantial Completion. The Contractor shall pay all deductibles, self-insured retentions, or both contained in the policies of insurance. The Contractor shall continue to provide evidence of coverage to the Owner on an annual basis during the aforementioned period.

§ 11.1.3 The Contractor shall submit to the Architect and the Owner a copy of certificates of insurance prior to commencement of the Work. Certificates shall include each and every type of coverage specified. Such certificates shall name the Owner and Architect as additional insureds and shall contain a statement that the Owner will be notified 30 days prior to the cancellation of any insurance policy evidenced by this certificate. The additional insureds requirements of this Section shall include completed and ongoing operations and Contractor shall provide additional insured endorsements. An additional certificate evidencing continuation of liability coverage, including coverage for completed and ongoing operations, shall be submitted with the final Application for Payment as required by Section 9.10.2. When any required insurance, due to the attainment of a normal expiration date or renewal date, shall expire, the Contractor shall supply the Owner with Certificates of Insurance and amendatory riders or endorsements that clearly evidence the continuation of all coverage in the same manner, limits of protection, and scope of coverage as was provided by the previous policy if and to the extent required to meet the insurance requirements of this Section 11.1. All renewal and replacement policies shall comply with the

requirements of this Section 11.1. A failure of the Owner to request a certificate or other evidence of compliance with the insurance requirements or a failure of the Owner to identify a deficiency from evidence that is provided shall not be construed as a waiver of the Contractor's obligation to maintain the required insurance.

§ 11.1.4 The Contractor shall cause all Subcontractors to provide Workers' Compensation, Comprehensive General Liability, and Automobile Liability Insurance with commercially reasonable limits and certificates of insurance related thereto. Such certificates shall name the Owner and Architect as additional insureds.

§ 11.1.5 The Contractor shall not commence Work under the Contract until the Contractor has obtained and provided proof of all insurance required under this heading.

§ 11.1.6 All liability policies required in this Section 11.1 shall be primary and non-contributory with respect to any other insurance or self-insurance programs that cover the Owner or an additional insured.

§ 11.1.7 If Contractor fails to purchase and/or maintain any insurance required under Section 11.1, the Owner may, but shall not be obligated to, upon seven (7) days written notice to Contractor, purchase such insurance on behalf of the Contractor and shall be entitled to be reimbursed by the Contractor upon demand.

§ 11.1.8 Performance Bond and Payment Bond

§ 11.1.8.1 The Contractor shall furnish bonds as required in the Agreement between Owner and Contractor.

§ 11.1.8.2 The Contractor shall keep the surety informed of the progress of the Work, and, where necessary, obtain the surety's consent to, or waiver of, (i) notice of changes in the Work; (ii) request for reduction or release of retainage; (iii) request for final payment; and (iv) any other item required by the surety. The Owner shall be notified by the Contractor, in writing, of all communications with the surety. The Owner may, in the Owner's sole discretion, inform the surety of the progress of the Work and obtain consents as necessary to protect the Owner's rights, interests, privileges and benefits under and pursuant to any bond issued in connection with the Work. The Contractor shall be notified by the Owner, in writing, of any communications with the surety.

§ 11.1.8.3 If at any time any surety providing bonds for the Project (1) is adjudged bankrupt or has made a general assignment for the benefit of its creditors; (2) has liquidated all assets or has made a general assignment for the benefit of its creditors; (3) is placed in receivership; (4) otherwise petitions a state or federal court for protection from its creditors; or (5) allows its license to do business in Ohio to lapse or to be revoked, then the Contractor shall immediately, but no later than 21 days of any such action listed above, provide the Owner with new bonds in the form and amount required under the Contract.

§ 11.2 Property Insurance

§ 11.2.1 Unless otherwise provided in the Agreement, 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. 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 or until no person or entity other than the Owner has an insurable interest in the property required by this Section to be covered, whichever is later.

§ 11.2.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include 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, tornado, flood, windstorm, explosion, breakage of glass, falsework, testing and startup, temporary buildings and structures, materials used in the construction process, hot and cold testing, and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss. Coverage shall include a provision to pay the reasonable extra costs of acceleration and expediting temporary and permanent repairs to, or permanent replacement of, damaged property (including overtime wages directly incurred to accelerate restoration or repair of the damaged property, and the extra

costs that are directly incurred to rapidly transport materials and supplies necessary to the repair or replacement); soft costs coverage to the extent commercially available to comparable insureds, including the reasonable direct costs incurred by Architect and/or Contractor as a result of a property damage loss covered by the policy; and provisions for mechanical or electrical breakdown, or boiler system testing. Coverage shall be primary to all other applicable insurance. Notwithstanding any of the foregoing, the insurance shall include coverage only for those costs incurred as a direct result of direct physical damage to property otherwise covered by the policy; business income, business interruption, home office overhead, and lost productivity costs of Contractor or any subcontractor at any tier shall not be covered.

§ 11.2.1.2 If the property insurance requires minimum deductibles, the Contractor shall pay costs not covered by the insurance because of such deductibles.

§ 11.2.1.3 This property insurance shall cover portions of the Work stored off the site after written approval of the Owner at the value established in the approval, and also portions of the Work in transit.

§ 11.2.1.4 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.

§ 11.2.1.5 The insurance required by this Section 11.2 is not intended to cover machinery, tools, apparatus, scaffolding, hoists, forms, staging, shoring or other equipment owned or rented by the Contractor which are utilized in the performance of the Work but not incorporated into the permanent improvements. The Contractor shall, at the Contractor's own expense, provide insurance coverage for owned or rented machinery, tools or equipment.

§ 11.3 WAIVERS OF SUBROGATION

The Contractor waives all rights against the Owner and their agents and employees for damages to the extent covered by any insurance, except rights to the proceeds of that insurance. All policies shall accomplish the waiver of subrogation by endorsement or otherwise. Contractor shall require of its Subcontractors, by appropriate written agreements, similar waivers each in favor of the Owner and Contractor; all Sub-subcontractors at every tier shall also be bound by and comply with this same requirement in their respective agreements.

§ 11.4 A loss insured under the Owner's property insurance shall be adjusted by the Owner in good faith and made payable to the Owner for the insureds, as their interests may appear. The Contractor shall pay 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. The Owner in good faith shall have power to adjust and settle a loss with insurers.

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 that the Architect has not specifically requested to examine 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, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before 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, for a period of one year after the date of Substantial Completion of the Work or designated portion thereof, the Contractor shall correct any of the Work that is found defective in workmanship, materials or not in accordance with the requirements of the Contract Documents. If defective or nonconforming Work becomes apparent within the one-year period, the Owner shall notify the Contractor in writing. Within fourteen (14) days of receipt of said notice, the Contractor shall visit the Project in the company of one or more representatives of the Owner to determine the extent of the defective or nonconforming Work. If the defective or nonconforming Work is considered by the Owner to be an emergency, the Owner may require the Contractor to visit the Project within one (1) calendar day or less of receipt of said notice. The Contractor shall promptly repair or replace the defective or nonconforming Work, including all adjacent Work damaged as a result of such defective or nonconforming Work. The Contractor shall be fully responsible for the cost of temporary materials, facilities, utilities or equipment required during the repair or replacement of the defective or nonconforming Work. If the Contractor fails to correct defective or 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 2.5.

§ 12.2.2.2 With respect to items of Work that are corrected, completed or first performed after Substantial Completion but prior to final completion of the Project, including completed punch list items, the one-year period with respect to these items shall commence upon correction or completion of the item.

§ 12.2.2.3 One month prior to the end of the one (1) year period, the Contractor shall attend a walk-through of the Project scheduled by the Architect.

§ 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 of the Owner or Separate Contractors, whether completed or partially completed, 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 one-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. The acceptance of nonconforming Work by the Owner shall be by written Change Order.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the laws of the State of Ohio. Any suit, which may be brought to enforce any provision of this Agreement or any remedy with respect hereto, shall be brought in the Common Pleas Court of the County where the Project is located which shall have exclusive jurisdiction to the exclusion of all other jurisdictions. The applicable statutes of limitations and repose under Ohio law shall apply to all causes of action between the Owner and Contractor.

§ 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 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 the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder are cumulative and shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 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 upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 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 be present at and shall give the Architect timely notice of when and where tests and inspections are to be made, including intermediate and final inspections, so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 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 13.4.1, 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 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 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. The Contractor also agrees the cost of testing services required for the convenience of the Contractor in the scheduling and performance of the Work, and the cost of testing services related to remedial operations performed to correct deficiencies in the Work, shall be borne by the Contractor.

§ 13.4.4 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.

§ 13.4.5 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.

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

§ 13.4.7 Any reports or documents resulting from tests, inspections and approvals required under this Section 13.4 shall be submitted to the Owner and Architect.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate set forth in the Agreement.

§ 13.6 Training Sessions

The Contractor will participate in training sessions for the Owner in cooperation with the Architect, Owner, Owner's personnel and consultants and the Contractor will participate in tests in cooperation with the Architect, Owner, Owner's personnel and consultants to the extent applicable to the Contractor's Work.

§ 13.7 Equal Opportunity

§ 13.7.1 The Contractor shall comply with applicable law regarding equal employment opportunity, including Ohio Revised Code Section 153.59. The Contractor shall cooperate fully with the State's Equal Opportunity Coordinator, with any other official or agency of the state or federal government that seeks to eliminate unlawful employment discrimination, and with all other state and federal efforts to assure equal employment practices under the Contract. The Contractor agrees to the following:

§ 13.7.1.1. That, in the hiring of employees for the performance of Work under the Contract or any Subcontract, Contractor and any Subcontractor or person acting on Contractor's or a Subcontractor's behalf shall not discriminate against any citizen of the state who are qualified and available to perform the services to which the employment relates by reason of race, color, religion, sex, age, disability, military status as defined in section 4112.01 of the Revised Code, veteran status, national origin, ancestry, sexual orientation, gender identity (including gender expression), marital status or genetics; and

§ 13.7.1.2. That Contractor and any Subcontractor or person acting on Contractor's or a Subcontractor's behalf shall not in any manner discriminate against, intimidate, or retaliate against any employee hired for the performance of services under the Contract on account of race, color, religion, sex, age, disability, military status, veteran status, national origin, ancestry, sexual orientation, gender identity (including gender expression), marital status or genetics.

§ 13.7.2. In the event the Contractor fails to comply with these nondiscrimination clauses, the Contractor shall be subject to the forfeiture requirements of Ohio Revised Code Section 153.60.

§ 13.7.3 Hiring Under State Public Improvement Contracts. Any provision of a hiring hall contract or agreement which obligates the Contractor to hire, if available, only employees referred to the Contractor by a labor organization shall be void as against public policy and unenforceable with respect to employment under any public improvement contract unless at the date of execution of the hiring hall contract or agreement, or within thirty (30) days thereafter, the labor organization has procedures in effect for referring qualified employees for hire without regard to race, color, religion, national origin, military status as defined in Ohio Revised Code Section 4112.01, or ancestry and unless the labor organization includes in its apprentice and journeyperson's membership, or otherwise has available for job referral without discrimination, qualified employees, both whites and non-whites (including African-Americans).

§ 13.8 The table of contents, titles, headings, running headlines and marginal notes contained in the Contract are solely to facilitate reference to various provisions of the Contract Documents and in no way affect, limit or describe or limit the interpretation of the provisions to which they refer.

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 75 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, 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; or

- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped; or
- .3 Because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents.
- .4 [Intentionally Deleted].

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, 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 thirty days' notice to the Owner and Architect, terminate the Contract provided that the reason for the termination is not cured within the thirty-day period and recover from the Owner payment for Work executed as of the date of termination, but not overhead and profit on Work not executed and not to exceed the Contract Sum (however, if such reason for termination cannot reasonably be cured within the thirty-day period, then Contractor shall not terminate the Contract so long as Owner commences to cure the reason for termination within such thirty-day period and diligently pursues such cure).

§ 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 or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or Suppliers;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is in material breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, the Owner may, 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' notice, and provided that the reason for the termination is not cured within the seven-day period, terminate employment of the Contractor and/or exercise the following non-exclusive remedies which will be cumulative:

- .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 general 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, then Contractor shall be paid for Work that it satisfactorily performed prior to the date of termination but not to exceed such excess unpaid balance. If such costs and damages exceed the unpaid balance, the Contractor and the Contractor's surety shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.2.5 Should the Owner terminate this Agreement for cause under this Section 14.2, but that cause be subsequently found insufficient to support termination, the termination shall be deemed one of convenience under Section 14.4.

§ 14.2.6 If the Contract is terminated for cause, the Contractor's surety may perform the Contract. If the Contractor's surety does not commence performance of the Contract within ten (10) days of the date of Contract termination, the Owner may complete the Work by means the Owner determines appropriate. If the Contractor's surety performs the Work, the provisions of the Contract Documents govern the surety's performance, with the surety in place of the Contractor in all provisions including, but not limited to, provisions for payment for the Work, and provisions of the right of the Owner to complete the Work.

§ 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 Contract Time shall be equitably adjusted for increases in the cost and time caused by suspension, delay, or interruption under 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 the Contract.

§ 14.4 Termination by the Owner for Convenience

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

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall with respect to the Work that is terminated:

- .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; and
- .4 deliver to Owner all Project-related documents and work product of Contractor and its Subcontractors related to the Work.

§ 14.4.3 If the Contract is terminated in accordance with this Section 14.4, the Owner will pay the Contractor, i) for Work performed under the Contract up to the date the notice of termination is received by the Contractor at the rates for Work performed under the Contract, including overhead and profit up to the date of termination and reasonable expenses directly attributable to the termination, but not for overhead or lost profit on unperformed Work, ii) for Work performed at the direction of the Owner on and after the date on which the notice of termination is received by the Contractor, as determined by the procedures applicable to Construction Change Directives, and iii) for Work necessary to protect and preserve the Work, as determined by the procedures applicable to Construction Change Directives. .

§ 14.4.4 The termination of the Contract under this Section 14.4 shall be without prejudice to rights or remedies which exist at the time of termination.

§ 14.5 Contractor Insolvency

§ 14.5.1 The Owner may immediately terminate the Agreement for cause if:

§ 14.5.1.1 the Contractor commences a voluntary case under Title 11 of the United States Code or the corresponding provisions of any successor laws; or

§ 14.5.1.2 any legal entity commences an involuntary case against the Contractor under Title 11 of the United States Code or the corresponding provisions of any successor laws and (1) the case is not dismissed within 60 days after its commencement; or (2) the court before which the case is pending issues an order for relief or similar order approving the case; or

§ 14.5.1.3 a court of competent jurisdiction appoints, or the Contractor makes an assignment of all or substantially all of its assets to, a receiver, trustee, liquidator, or other similar custodian for the Contractor or all or substantially all of the Contractor's assets; or

§ 14.5.1.4 any attachment, execution, or other judicial seizure is levied against all or substantially all of the Contractor's assets; or

§ 14.5.1.5 the Contractor takes any action toward the dissolution or winding up of its business; or

§ 14.5.1.6 the Contractor fails generally to pay its debts as they become due (unless those debts are subject to a good-faith dispute as to liability or amount) or it acknowledges in writing that it is unable to do so.

§ 14.5.2 If the Contractor files a voluntary petition in bankruptcy or has an involuntary petition in bankruptcy filed against it, the Contractor, the Contractor as the debtor-in-possession, or the trustee of the Contractor's bankruptcy estate shall file a motion to assume or reject the Contract under Bankruptcy Code §365, 11 U.S.C. §365, within 20 days after the filing of the voluntary petition or involuntary petition and shall diligently prosecute that motion to conclusion so as to obtain an order granting or denying that motion within 45 days after the filing of the voluntary or involuntary petition.

§ 14.5.3 If the Owner intends to exercise its termination rights under this Section 14.5, the Owner shall notify the Contractor in writing of the Owner's termination of the Contract and the cause(s) for that termination.

§ 14.5.4 The Contractor agrees to the granting of relief from the automatic stay of the Bankruptcy Code, 11 U.S.C. §362(a), to permit the Owner to terminate the Contract for cause in such instance and issue and serve all notices necessary to terminate the Contract or arising out of the termination of the Contract and to take any and all other action necessary to terminate the Contract.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by the Contractor seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question asserted by the Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the Contractor. The Contract, including but not limited to this Article 15 does not require the Owner to make a claim, dispute, demand or assertion against the Contractor for the payment of money, a change in the Contract Time or other relief or in order for the Owner to exercise its rights and remedies against the Contractor, including but not limited to the remedying of a Contractor default, the imposition of liquidated damages and binding dispute resolution in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Causes of Action

The Owner and Contractor shall commence all causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable statute of limitation and repose. The Owner and Contractor waive all causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Time Limit on Claims. A Claim or Claims by Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the Owner 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 the Contractor under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after Contractor first recognizes the condition giving rise to the Claim, whichever is later. Failure to submit proper and timely notice in accordance with this Section shall constitute a waiver and abandonment of the Claim by Contractor.

§ 15.1.3.2 Contractor Claims and claims by the Owner, where the condition giving rise is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 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.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 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.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, provided such Claim is documented by data substantiating that weather conditions, the Contract Time will be extended by one (1) day for each work day lost due to weather that delays Work on the critical path in excess of those in the following table:

Month	Number of Workdays Lost Due to Weather
January	8
February	8
March	7
April	6
May	5
June	4
July	4
August	4
September	5
October	6
November	6
December	6

§ 15.1.6.3 The Contractor shall not be entitled to a separate increase in the Contract Time for each one of the number of causes of delay which may have concurrent or interrelated effects on the progress of the Work, or for concurrent delays due to the fault of the Contractor

§ 15.1.7 Waiver of 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.

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 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents, nor shall this Section 15.1.7 apply to a party's gross negligence, willful misconduct or indemnity obligations.

§ 15.1.8 Substantiation and Certification of Claim

§ 15.1.8.1 Substantiation of Claim. Within fifteen (15) days after the initiation of a Claim by Contractor, the Contractor shall substantiate its Claim by providing the following minimum written information to Owner: (i) a narrative of the circumstances which gave rise to the Claim, including, without limitation, the start date of the event or events and the actual, or anticipated, finish date; (ii) detailed identification of the Work affected by the event giving rise to the Claim; (iii) copies of the Contractor's daily log for each day of impact; (iv) copies of relevant correspondence and other information regarding or supporting Contractor's entitlement; (v) copies of the Contractor's most recent income statement, including segregated general and administrative expenses for the most recent reporting period, and for the period of the Contract, if available, and similar information for any Subcontractor claim included; (vi) if the Claim is for additional cost, the amount of the Claim, the information specified in Section 15.1.5 herein and a statement that the increase requested is the entire increase in the Contract Sum associated with the Claim; (vii) if the Claim is for additional Contract Time, the information specified in Section 15.1.6 herein. Contractor shall also provide such additional information as requested by Owner or Architect to substantiate the Contractor's Claim within ten (10) days following request. The Contractor shall provide the required information in the formats requested, which include both paper and electronic copies. The Contractor's failure to comply with the requirements of this Section shall constitute an irrevocable waiver of the Claim.

§ 15.1.8.2 Certification of Claim. Within fifteen (15) days after the initiation of the Claim by Contractor, the Contractor shall certify its Claim by providing the notarized certification, signed and dated by the Contractor, as follows: "The undersigned Contractor certifies that the Claim is made in good faith; that the supporting data is accurate and complete to the best of the Contractor's knowledge and belief; that the amount requested is a fair, reasonable, and necessary adjustment for which the Contractor believes the Owner is liable; and that the undersigned is duly authorized to certify the Claim on behalf of the Contractor." The Contractor's failure to comply with the requirements of this Section shall constitute an irrevocable waiver of the Claim.

§ 15.2 Initial Decision

§ 15.2.1 Contractor Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3 and 10.4, 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. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, Contractor may demand mediation and binding dispute resolution without a 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 take one or more of the following actions: (1) request additional supporting data from the Contractor or a response with supporting data from the Owner, (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 the 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.

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

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

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

§ 15.3 Mediation

§ 15.3.1 Disputes, or other matters in controversy between the parties, including a Claim, arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their disputes or other matters in controversy 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 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 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.

§ 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. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. 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 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party 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 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party 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 those of the Owner and Contractor under this Agreement.

Additions and Deletions Report for AIA® Document A201® – 2017

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2027 Roof Replacement at Wright Elementary School

THE ARCHITECT Board of Education of the Dublin City School District
6371A Shier Rings Road
Dublin, Ohio, 43016

THE PROFESSIONAL DESIGN FIRM PROVIDING ARCHITECTURAL OR ENGINEERING SERVICES FOR THE PROJECT ("THE ARCHITECT"):

Mays Consulting & Evaluation Services, Inc.
201 Pennsylvania Avenue
P.O. Box 1020
Delaware, Ohio 43015

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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, 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 or proposal requirements.

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2.1 The intent of the Contract Documents is to include all items necessary and reasonably inferable for the proper execution and completion of the Work by the Contractor, whether or not expressly shown or described. 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.

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§ 1.5.3 The Owner alone owns all Project-related documents, including those in electronic form, prepared by the Contractor and Subcontractors, and every right, title, and interest therein from the moment of creation. The Contractor must execute and deliver and cause its employees and agents and all Subcontractors to execute and deliver to the Owner any transfers, assignments, documents, or other instruments (if any) necessary to vest in the Owner complete right, title, interest in and ownership of the Contractor's documents. The Contractor may retain copies, including reproducible copies, of the Contractor's documents for information, reference, and performance of the Work. The submission or distribution of the Contractor's documents to meet official regulatory requirements or for similar purposes in connection with the Project is not a waiver of the Owner's reserved rights in the Contractor's documents. Any unauthorized use of the Contractor's documents shall be at the sole risk of the entity making the unauthorized use.

§ 1.2.4 The terms "knowledge," "recognize," and "discover," their respective derivatives, and similar terms in the Contract Documents, as used in reference to the Contractor, shall mean that which the Contractor knows (or should know), recognizes (or should recognize) and discovers (or should discover) in exercising the care, skill, and diligence required by the Contract Documents. Analogously, the expression "reasonably inferable" and similar terms in the Contract Documents shall be interpreted to mean reasonably inferable by a contractor exercising the care, skill, and diligence required of the Contractor by the Contract Documents.

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

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. The use of the word "including," when following any general statement, term, or matter, shall not be construed to limit such statement, term, or matter to the specific items or matters set forth immediately following such word or to similar items or matters, whether or not non-limiting language (such words as "without limitation," or "but not limited to," or words of similar import) is used with reference thereto, but rather shall be deemed to refer to all other items or matters that could reasonably fall within the broadest possible scope of such general statement, term, or matter. All personal pronouns used in this Contract, whether used in the masculine, feminine, or neuter gender, shall include all other genders; and the singular shall include the plural and vice versa. Titles of articles, sections, and subsections are for convenience only and neither limit nor amplify the provisions of the Contract.

§ 1.5.1 Unless otherwise indicated in the agreement between the Owner and the Architect, 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 retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and 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 the 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 suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to SectionsSection 1.7 and 1.8, 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 suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

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§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

The parties shall agree upon written protocols governing the transmission and use of, and reliance on, Instruments of

Service or any other information or documentation in digital form.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to written protocols governing the use of, and reliance on, the information contained in the model shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees. Owner and Contractor acknowledge and reasonably expect that they will provide or cause to be provided electronic files to each other, including, but not limited to, Revit, Computer-Aided Design ("CAD") or Building Information Modeling ("BIM") files (collectively "Electronic Files"), and that they will receive Electronic Files from and provide Electronic Files to the Architect, to facilitate the design and construction of the Project consistent with current practices and customs in the construction industry. The Owner and Contractor acknowledge that the use of Electronic Files involves risks not generally associated with the use of paper documents. Those risks include, for example and without limitation, alteration (inadvertent or intentional) and deterioration, both of which may not be readily apparent through casual observation. The Owner and Contractor do not warrant to each other that any Electronic File they provide to each other or that they receive from or provide to the Architect (1) was not altered through transmission; (2) is compatible with the recipient's computer system or software; (3) will not be altered through degradation of the recipient's storage media; or (4) is suitable for conversion/translation to and subsequent use in a system or format other than the Electronic File's original system or format. Before relying on any Electronic File it receives, the recipient is responsible for verifying that the Electronic File was not altered through transmission, degradation of the recipient's own storage media, or other causes. If the recipient of an Electronic File converts/translates the Electronic File from its original system or format to an alternate system or format, the recipient assumes the risk that the conversion/translation created errors in the converted/translated file. Owner and Contractor shall each maintain and operate its own computer systems and storage media in a commercially reasonable way and take reasonable steps to prevent errors in and deterioration of the Electronic Files it creates, provides, and receives. In the event of a discrepancy between information contained in a paper version of a document and the Electronic File of that document, the paper version will govern. This Section does not relieve the Contractor of its responsibility for the preparation, completeness, or accuracy of the Contractor's documents. The parties shall also follow any other protocols governing the development, transmission, exchange and use of Instruments of Service, Electronic Files or any other information or documentation in digital form as may be agreed upon in writing by the Owner, Contractor and Architect.

§ 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; provided that the representative shall have only such authority as is expressly authorized by the Owner's governing board. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

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§ 2.2 Evidence of the Owner's Financial Arrangements

§ 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. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following 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 only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change

until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information a notice of commencement as may be required by Ohio Revised Code Chapter 1311. The Contractor shall provide a copy of any notice of commencement to its Subcontractor and any known Sub-subcontractors. The Contractor will immediately deliver to the Architect and Owner copies of notices of furnishing that Contractor receives.

§ 2.3.2 The Owner shall retain an architecta professional design firm lawfully licensed to practice architecture or engineering, or an entity lawfully practicing architecture or engineering, 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.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor ~~to whom the Contractor has no reasonable objection and~~ whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall, if necessary for the execution of the Work, furnish surveys or other information 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.

§ 2.3.5 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 reasonably necessary 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.

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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. The rights of the Owner under this Section are in addition to Owner's rights and remedies contained elsewhere in the Contract Documents.~~

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 notice from the Owner to ~~commence and continue correction of~~ correct such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Contractor shall immediately commence and continue without interruption using best efforts to correct such default or neglect upon receipt of written or oral notice thereof or otherwise becoming aware, and if Contractor fails to do so, then Owner may correct such default or neglect. The Owner or 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 current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15. The rights of Owner under this Section are in addition to the rights of Owner as set forth in Articles 12 and 14 herein.

§ 3.1.4 The Contractor shall attend preconstruction meetings with representatives of the Architect and Owner. The Contractor shall have any of its Subcontractors and suppliers at the meeting as necessary or as requested by the Architect. The preconstruction meetings will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the Project. The date, time, and place of the meetings will be designated by the Owner.

§ 3.1.5 If the Project is designed and constructed with a Sustainable Objective identified in the Agreement for the Project, the Contractor shall perform the Work for which the Contractor is responsible in furtherance of the Sustainable Objective and shall provide submittals certifying achievement of the Sustainable Objective criteria for verification by a third party, and the submittals shall be provided in accordance with any deadlines set forth in the schedule and Contract Documents. In the absence of schedules or deadlines, the Contractor will submit the documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or Separate Contractors. The Contractor shall include with any requests for substitution any potential effect the substitution may have on the Sustainable Objective. The Contractor grants to the Architect and Owner the right to submit the Contractor's submittals to the rating system as required in order to achieve or maintain the Sustainable Objective.

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§ 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. By executing the Agreement, the Contractor certifies that it has evaluated and satisfied itself as to the conditions and limitations under which the Work is to be performed, including, without limitation, (i) the location, condition, layout, and nature of the Project site and surrounding areas, including but not limited to utilities, access restraints to the Project site and access restraints to neighboring facilities, (ii) generally prevailing climatic conditions, (iii) anticipated labor supply and costs, (iv) availability and cost of materials, tools, and equipment, and (v) other similar issues. The Contractor shall be solely responsible for providing a safe place for the performance of the Work. The Owner shall not be required to make any adjustment in either the Contract Sum or the Contract Time in connection with any failure by the Contractor or any Subcontractor to have complied with the requirements of this Section 3.2.1.

§ 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 2.3.4, 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. The Contractor shall satisfy itself as to the accuracy of all grades, elevations, dimensions, and locations. In all cases of interconnection of its Work with existing or other work, Contractor shall verify at the site all dimensions relating to such existing or other work. Any errors due to the Contractor's failure to so verify all such grades, elevations, dimensions, or locations shall be promptly rectified by the Contractor without any additional cost to the Owner. These obligations are for the purpose of facilitating coordination and construction by the Contractor, for determining that the Work is constructible, for determining if the Work of the Contractor is coordinated in the Contract Documents with the Work of Separate Contractors under a separate contract with the Owner, and for verifying that field conditions, including the Work of other Contractors, are consistent with the information in the Contract Documents and ready for Work and are not for the purpose of discovering errors, omissions, or inconsistencies in the design information contained 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, and proceeding without reporting such nonconformity shall make the Contractor responsible for any costs and expenses incurred by the Contractor related to the claimed deficiencies.

§ 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 submit Claims as provided in Article 15, and the time limit for initiating a Claim begins to run on the date of the Architect's issuance. 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, subject to Section 15.1.7, 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 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect for evaluating and responding to the Contractor's requests for information that are not prepared in accordance with the Contract Documents and/or where the requested information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation.

§ 3.2.6 If the Architect does not specify a form for Contractor to submit a request for information, then Contractor shall utilize the AIA Document G-716.

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§ 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 or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors, including Sub-subcontractors of any tier, and Contractor shall be responsible for ensuring the performance of the Work regardless of whether the work is performed by the Contractor, a Subcontractor or Sub-subcontractors of any tier. The Contractor shall be responsible for scheduling and coordinating the work of its Subcontractors and suppliers. This section shall apply with equal force and effect regardless of whether any Subcontractors are selected by the Contractor or assigned by the Owner.

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, storage and other facilities and services necessary for proper execution and completion of the Work, including but not limited to field offices, toilets, other trailers, or buildings, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. The Contractor shall use best efforts to conserve any utilities furnished by Owner.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive. The Contractor shall provide all data, information, regulations and certifications required by Architect and Owner in evaluating the proposed substitution. The Owner shall be entitled to reimbursement from the Contractor for amounts paid for reviewing the Contractor's proposed substitutions and making agreed-upon changes in the Drawings and Specifications resulting from such substitutions.

§ 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 to the requirements of the Contract Documents, will be of good workmanship 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 shall be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, improper alterations to the Work not except when 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.

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.3whenever 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. The Contractor shall obtain a Change Order before incurring any costs in excess of an allowance.

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. Owner will provide to Contractor, upon request, a completed State of Ohio Sales and Use Tax Construction Contract Exemption Certificate.

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for all other permits, fees, licenses, and inspections by utilities or 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.

§ 3.7.3 If the Contractor performs Work ~~knowing it to be~~ 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.

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 14 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 be made 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, stating the reasons. If ~~either party~~ Contractor disputes the Architect's determination or recommendation, ~~that party~~ the Contractor may submit a Claim as provided in Article 15, and the time limit for initiating a Claim related to subsurface, concealed or unknown conditions begins to run on the date the Architect issues its determination or recommendation.

.2Contractor'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 shall not be chargeable against the allowance; and

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§ 3.9.2 ~~The~~ if not already approved in advance by the Owner, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Owner or 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 Owner or 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. The Owner shall have the right to require the Contractor to remove a superintendent from the Project whose performance is not satisfactory, and to replace the superintendent with a superintendent who is

satisfactory to the Owner.

§ 3.10.1 If not already provided to the Owner in accordance with the Agreement, the Contractor, promptly after being awarded the Contract execution of the Agreement or Guaranteed Maximum Price Amendment, shall 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 dates of Substantial Completion and final completion; (2) an apportionment of the Work by construction activity; and (3) identifying the critical path of the Work; (4) a graphic representation of activities and events that will occur during performance of the Work; (5) identifying the crew size and total resource hours for each activity in the schedule; (6) identifying disruptions and shutdowns; and (7) 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. If the schedule is not accepted by the Owner and Architect, the Contractor shall promptly revise the schedule in accordance with the recommendations of the Owner and Architect and resubmit to Owner and Architect for acceptance. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.1.1 In certain occupied buildings, tasks might be of such a nature that noise and vibration cannot be tolerated. In such spaces, Work shall be scheduled for other than normal working hours. The Contractor is cautioned that weekend or overtime work, if required to avoid such noise and vibration, shall be performed at no additional cost. Permission to work other than standard hours shall be received from the Owner prior to the occurrence. Weekend and overtime Work shall be reflected in the construction schedule.

§ 3.10.1.2 In the event that critical path activities, schedule milestone completion dates, Substantial Completion or final completion dates will not be met, Contractor shall devise an affirmative time recovery plan acceptable to the Owner and Architect to avoid or minimize any delay. Such a plan may include, without limitation, increasing the Contractor's workforce in such quantities as will eliminate the backlog of Work, increasing the number of working hours per shift, shifts per workday, workdays per week, the amount of construction equipment, or any combination thereof, rescheduling of activities to achieve maximum practical concurrency of Work efforts and, if appropriate, time extensions.

§ 3.10.1.3 Unless otherwise provided in the Agreement, or unless different intervals are agreed to by the Owner, the Contractor shall update the construction schedule bi-weekly consistent with time limits established under the Contract Document and shall obtain the Owner's and Architect's approval. The updated construction schedule shall show all changes to the previous schedule. The updated construction schedule shall be signed by the Contractor and shall serve as an affirmation that the Contractor agrees to and can meet the requirements of the updated construction schedule.

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§ 3.10.1.4 The Contractor shall participate with Separate Contractors and the Owner in reviewing their construction schedules and the Contractor shall coordinate its Work with the activities of the Owner's own forces and of Separate Contractors. The Contractor shall make any revisions to the construction schedule in order to coordinate its Work as required by this Section.

§ 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 submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors. The Contractor shall pay all costs incurred by the Architect and Owner for attendant delay, interference, hindrance or disruption of the Project due to (i) review of submittals out of sequence from the agreed-upon schedule provided that the Architect has demonstrated that it has been financially impacted and/or (ii) due to excessive re-submittals without fault of the Architect. Unless otherwise provided in the Contract Documents, re-submittals in excess of one (1) without fault of the Architect or Owner shall be deemed excessive. If the Shop Drawings or other submittals show variations from the requirements of the Contract Documents, the Contractor shall specify such variations in the Contractor's letter of submittal to the Architect accompanying the submittal. Variations must be approved in writing.

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections

made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals, accurate, current and reproducible as-built drawings (showing Work as actually performed, variations from the original Contract Documents and the location of any concealed and/or buried items, utilities, mechanical or electrical systems and components), and accurate records of any changes made to the Specifications, noting particularly any variation from manufacturer's installation instructions and recommendations. Contractor shall also maintain at the site: a daily log in which it has recorded Project related information, including but not limited to, weather, number of workers on site, identification of equipment, Work accomplished, problems encountered and other similar relevant Project data; manufacturers' installation, operating and/or maintenance instructions or requirements, certificates and warranties; any special guarantees or warranties required by the Contract Documents; all the Contractor's communications, including but not limited to letters, memoranda, e-mails, invoices and bills of lading, arising out of or related to the Project with the Architect, Owner, and/or Subcontractors, suppliers and/or employees; assignment of all guarantees or warranties from Subcontractors, vendors, suppliers or manufacturers; a list of the names, addresses and telephone numbers of all Subcontractors and any other persons providing guarantees and warranties; and quality control procedures and documents related thereto. These shall be in electronic form or paper copy, 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.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how 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. In the event of conflicts between submittals and the Contract Documents, the Contract Documents take precedence and govern the Work. Review by the Architect is subject to the limitations of Section 4.2.7. 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.

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§ 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 the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect 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. The review and approval of a separate item shall not indicate approval of the assembly in which the item functions.

§ 3.12.10.1 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, and the Contractor shall confirm with the Architect the appropriate performance and design criteria that such services shall satisfy. The Contractor shall be entitled to reasonably rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents as confirmed by the Contractor with the Architect. The Contractor shall cause such services or certifications to be provided by an appropriately 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 and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the 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.

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The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules

and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment. Protection of construction materials and equipment stored at the Project site from weather, theft, damage, and all other adversity is solely the responsibility of the Contractor. The Contractor shall use commercially reasonable efforts to minimize any interference with the occupancy or beneficial use of (i) any areas and buildings adjacent to the site of the Work and (ii) the Project site and any buildings located thereon in the event of partial occupancy. Without prior approval of the Owner, the Contractor shall not permit any workers to use any existing facilities at the Project site, including, without limitation, lavatories, toilets, entrances, and parking areas other than those designated by the Owner.

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials, dirt, dust and 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 Project except that the Contractor shall give to the Owner any surplus materials that are required by the Contract Documents, but not incorporated into the Project, for future maintenance or repairs. The Contractor shall be responsible for compliance with all requirements regarding notification and disposal of construction demolition debris.

§ 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) and/or a violation of applicable law, but only to the extent caused by the negligent acts or omissions or willful misconduct 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.

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The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project and the Contractor shall do likewise with respect to direct communications with the Owner. 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 Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 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 3.18.1 shall not be limited by any insurance policy provided or required in connection with the Project and/or 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. As between the Owner and Contractor, Contractor waives its immunities as may be applicable under law for purposes of confirming the indemnity obligations of this Agreement. Contractor shall require of its Subcontractors, by appropriate written agreements, similar waivers each in favor of all parties, including the Owner and Contractor; all sub-subcontractors at every tier shall also be bound by and comply with this same requirement in their respective agreements.

§ 3.19 Underground Utility Facilities

§ 3.19.1 The Contractor shall comply with ORC Sections 3781.25 through 3781.32. In addition, before starting excavation or trenching, the Contractor shall determine the location of any underground utilities and notify any public authority or utility having jurisdiction over the Project and secure any required approval. The Contractor shall alert immediately the occupants of any premises near the Work and the Architect as to any emergency that it may create or discover. The Contractor shall notify the operator of the underground facility and the Architect of any break or leak in the utility lines or any dent, gouge, groove, or other damage to such lines made or discovered in the course of excavation.

§ 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, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment and for such additional periods thereafter as the Owner and Architect may agree. 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. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the 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. The Contractor shall reimburse the Owner for amounts paid to the Architect for site visits that are in addition to what is required of the Architect as described in this Section and that are made necessary by the fault of the Contractor or by defects and deficiencies in the Work.

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§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work, including those tests and inspections as provided in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made 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, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 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. Review of such submittals 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 the Contract, including but not limited to Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.10 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 Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.12 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 rendered in good faith accordance with its standard of care.

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

§ 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, including material suppliers~~. 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 a Separate Contractor or the subcontractors of a Separate Contractor.

§ 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, including material suppliers~~. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor of any tier or an authorized representative of the Sub-subcontractor.

§ 5.2.1 ~~Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity 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.~~

§ 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, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.~~

Retention of Subcontractors shall be as set forth in the Agreement.

By appropriate written agreement, 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 the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall provide that the Owner is a third party beneficiary of the subcontract agreement and 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. Contractor shall promptly provide to Owner copies of any subcontract agreement along with copies of all bids or other proposals from Subcontractors. The subcontract agreement shall meet the applicable requirements of Ohio Administrative Code 153:1-3.

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

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

§ 6.2.1 The Contractor shall lay out and install its Work at such time or times and in such manner as not to delay or interfere with the carrying forward of the Work of Separate Contractors. The Contractor shall afford the Owner and Separate 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.

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§ 6.4 Owner's Provided Materials

The Owner may provide materials for Contractor to incorporate into the Project, and the Contractor shall incorporate such materials as part of its Work for the Project. The Contractor shall be fully responsible for and the Contract Sum shall cover, all matters relating to the receipt of materials provided by Owner as if the Contractor were the original purchaser, including but not limited to verifying correct quantities; coordinating purchases; providing, obtaining and managing all warranties and guarantees required by the Contract Documents including assistance to the Owner with the enforcement of such warranties and guarantees; inspection and acceptance of the materials; and loss or damage to the materials following acceptance of the materials by the Owner due to the negligence of the Contractor. The Contractor shall coordinate delivery schedules, sequence of delivery, loading orientation, and other arrangements normally required by the Contractor for the particular material furnished. The Contractor shall provide all services required for the unloading, handling and storage of materials through installation. The Contractor shall determine prior to incorporation into the Work if such materials are patently defective and whether they are in conformity with the Contract Documents (and, if applicable, any specifications provided by the Owner). If the Contractor discovers defects or non-conformities upon such visual inspection, the Contractor shall not utilize such materials in the Contractor's Work and instead shall properly notify the Owner of the defective or nonconforming condition so that repair or replacement of those materials can occur without undue delay or interruption to the Project. If the Contractor fails to perform such inspection and incorporates such defective or non-conforming materials into the Contractor's Work, Contractor shall be responsible for all damages to the Owner resulting from Contractor's incorporation of such materials into the Work. The Contractor shall maintain records of all Owner-provided materials it incorporates into the Work and shall account to the Owner for all Owner-provided materials delivered into the Contractor's or Subcontractor's possession.

§ 7.1.4 The Contractor shall not proceed with any change in the Work without the appropriate written authorization. Except as otherwise provided herein, the Contractor's failure to obtain prior written authorization for a change in the Work shall constitute a waiver by the Contractor of an adjustment to the Contract Sum and/or Contract Time for the related Work. No course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work shall be the basis of any claim to an increase in any amounts due under the Contract Documents or a change in any time period provided for in the Contract Documents.

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§ 7.2.2 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs and consequential damages associated with such change, the cumulative impact of the associated change in the Work in combination with one or more other changes in the Work, and any and all adjustments to the Contract Sum and the Contract Time. The

Contractor is not entitled to reserve any rights or take other similar action with respect to a Change Order if the effect or intent of the reservation or action would be to accommodate a further adjustment of the Contract Sum or Contract Times, or both, after the Contractor signs the Change Order. A Change Order signed by the Contractor without any indication of change in the Contract Sum and/or Contract Time indicates the Contractor's agreement that there will be no change in the Contract Sum and/or Contract Time. Unless agreed otherwise by the parties, the Change Order form shall be the AIA Document G-701.

§ 7.2.3 The Contractor shall proportionately increase the amount of its bond whenever the Contract Sum is increased. If notice of any change affecting the Contract is required by a provision of the bond, giving the notice shall be the Contractor's responsibility.

§ 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 or the performance of disputed 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.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Owner or Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an 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 Owner or Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

.1Costs of labor or credits arising from a change in the quantity of field labor directly involved in the Work, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect. Each of the fringe benefits shall be a separate line item, and the Contractor shall submit documentation supporting the calculation of the amounts for each fringe benefit for each worker. Each of the allowable payroll expenses shall be a separate line item. Costs that shall not be reimbursed include voluntary employee deductions (such as but not limited to deductions for charitable donations or U.S. savings bonds) and employee profit sharing;

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.2Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed (based on reasonable delivery charge or per-mile trucking charge for delivery of required materials or equipment), whether incorporated or consumed. The cost or credit for reusable materials (e.g. concrete form lumber, shoring, or temporary enclosures) shall be limited to 33 percent of the material cost for each use;

.3Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others. Downtime due to repairs, maintenance and weather delays shall not be allowed;

.4Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and

.5Costs or credits arising from a change in the quantity of supervision and field office personnel directly attributable to the change;

.6General Conditions Costs. Any costs or credit arising from a change in the quantity of the Contractor's general conditions costs shall be limited to the extent to which the change is attributable to an associated change in the Contract Time for attainment of Substantial Completion resulting from the change in the Work.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time as determined by the Architect, the Contractor may make a Claim in accordance with applicable provisions of Article 15, and the timeline for initiating a Claim begins to

run on the date the Architect issues its final determination.

§ 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 Architect's 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. Disagreements with the Architect's final determination shall be resolved in accordance with Article 15.

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time. Unless otherwise designated by the Architect, the form to be utilized by Architect in authorizing minor changes in the Work shall be the AIA Document G-710, Architect's Supplemental Instructions.

§ 7.5 Proposal Requests

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§ 8.3.1 ~~If Subject to other provisions of the Contract, the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine will not be entitled to an increase in the Contract Sum and will only be entitled to an extension of the Contract Time on account of delay in the commencement or progress of Work on the critical path of the construction schedule caused by acts of nature or the public enemy, acts or orders of the government not arising from the Contractor's failure to comply with applicable law, fires, floods, weather, and labor disputes beyond the Contractor's control.~~

§ 7.5.1 The Architect may issue to Contractor at any time a proposal request for a change in the Work, including a change in the Contract Sum and Contract Time (a "Proposal Request"). A Proposal Request is not a Change Order, a Construction Change Directive, an order for a minor change in the Work, or authorization to proceed with the change in the Work described in the Proposal Request. Unless otherwise designated by the Architect, the form to be utilized by Architect for a Proposal Request shall be the AIA Document G709, Proposal Request.

§ 7.5.2 The Contractor shall respond with a proposal to the Architect (a "Proposal") within seven (7) days after receiving the Proposal Request, and the Contractor shall include with its Proposal the Contractor's proposed adjustments to the Contract Sum and Contract Time. The allowable time for the Contractor's response may be extended by written agreement of the Contractor, the Owner and the Architect. Failure to respond within the allowed time frame may result in the Owner proceeding with the work through any other means.

§ 7.5.3 The Contractor shall hold the Proposal valid and open for acceptance for at least thirty (30) days. The acceptance period may be adjusted by mutual written consent of the Contractor and the Owner.

§ 7.5.4 The Owner may accept the Proposal in writing at which point the Contractor's obligations to perform the work as outlined in the Proposal shall become binding. The parties promptly thereafter shall memorialize the Owner's acceptance of the Proposal through a Change Order.

§ 7.6 Request for Change Order

§ 7.6.1 The Contractor may initiate a Change Order request by submitting written notice to the Architect and Owner accompanied by a Proposal meeting the requirements of Section 7.5. If the Owner or Architect reject or do not respond to the Contractor's Change Order request within sixty (60) days following submission, the Contractor may make a Claim in accordance with applicable provisions of Article 15, and the timeline for initiating a Claim begins to run on the sooner of either the date of the rejection or the expiration of the sixty (60) day period.

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

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined. Where the term "business day" is used, if the last day of the period falls on a Saturday, Sunday, or a legal holiday, that day shall be omitted and the period shall end on the next day which is not a Saturday, Sunday, or legal holiday.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required 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.

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§ 8.3.2 Notwithstanding any other provision of the Contract Documents to the contrary, the Contractor shall not be entitled to an increase in the Contract Sum, or an extension of the Contract Time, or both: (i) on account of the impact of any normal adverse weather on any of the Work or on account of the impact of any abnormal adverse weather on Work not on the critical path; (ii) to the extent that a delay occurs concurrently with a delay attributable to the Contractor; or (iii) on account of the delay of any Work not on the critical path.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.3 Notwithstanding any other provision of the Contract Documents to the contrary, the Contractor shall not be entitled to an increase in the Contract Sum or any type of damages on account of a delay in the commencement or progress of Work on the critical path unless (i) the delay is caused by the Owner or (ii) the delay was not authorized or permitted under the Contract.

§ 8.3.3 This4 Claims under this Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents shall be made in accordance with applicable provisions of Article 15.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed by twenty percent (20%) or more so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, and unless a different timeline is specified in the Agreement, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment within ten (10) days following the date of commencement of the Work, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be, including changes to the Contract Sum and changes required by the Architect if the Architect subsequently determines the schedule of values to be in any way unreasonable or inaccurate, shall be promptly submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3.1 At least ten days before the date in accordance with the timelines established for each progress payment in the Agreement, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with

the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers (i) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the previous Application for Payment was submitted have been paid or otherwise satisfied; (ii) a current list of the Subcontractors and suppliers showing their respective contract sums, amounts paid, and amounts due; (iii) schedule of all materials and equipment stored on-site; (iv) documentation required for materials and equipment stored off-site; (v) conditional lien waivers and releases from Contractor and from all Subcontractors and suppliers to be paid from the payment resulting from the Application for Payment; (vi) unconditional lien waivers and releases from Contractor and from all Subcontractors and suppliers for which Contractor was required to provide a conditional lien waiver in connection with a prior Application for Payment; and (vii) such other data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and shall reflect retainage if provided for in the Contract Documents.

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§ 9.3.2.1 The Contractor's request for storage of materials and equipment off site shall minimally include:

.1A list of the fabricated materials consigned to the Project (which shall be clearly identified), giving the place of storage, together with copies of invoices and reasons why materials cannot be delivered to the site.

.2Certification that items have been tagged for delivery to the Project and that they will not be used for another purpose.

.3A letter from the Contractor's surety indicating agreement to the arrangements and that payment to the Contractor shall not relieve the Contractor of its responsibility to complete the Work.

.4Evidence of adequate insurance covering the material in storage, which shall name the Owner as an additional insured.

.5Information pertaining to the Contractor's place of storage, the layout and security of the place of storage, and such information that verifies that the materials are securely stored at the place of storage.

.6Subsequent Applications for Payment shall itemize the materials and their cost which were approved on previous Applications for Payment and remain in off-site storage.

§ 9.4.1 The Architect will, ~~within seven days after receipt of the Contractor's Application for Payment,~~ either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

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§ 9.5.2 When ~~either party~~ the Contractor disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, ~~that party~~ the Contractor may submit a Claim in accordance with Article 15.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier 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 and the Contractor shall reflect such payment on its next Application for Payment. Contractor disputes a determination by the Architect with regard to a Certificate of Payment, and during any related dispute resolution, litigation, or other proceeding, the Contractor nevertheless shall continue to prosecute the Work.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than ~~seven days~~ the timeline set forth in Ohio Revised Code 4113.61, 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~~[Intentionally Deleted]~~.

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§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is ~~substantially complete~~Substantially Complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with 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. The Contractor shall pay all costs incurred by the Architect, Owner and Separate Contractors for costs due to excessive inspections without fault of the Architect or Owner. Unless otherwise provided in the Contract Documents, inspections to determine Substantial Completion in excess of one (1) without the fault of the Architect or Owner shall be deemed excessive.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. ~~Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted, including but not limited to claims for unjust enrichment. In the event that the Owner receives a claim affidavit in accordance with Ohio Revised Code Chapter 1311 relating to amounts due and unpaid for labor and work performed and material furnished for the Work, the Owner shall detain the amount due and owing from the Contractor unless and until the claim is released and/or discharged as more particularly set forth in said Chapter 1311. Posting a bond or other security discharging a lien shall not relieve the Contractor of its indemnity obligations in this Section.~~

~~If the Architect does not issue a Certificate for Payment~~Owner, through no fault of the Contractor, ~~within seven 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~~Agreement, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. ~~The Contract Time provided that Contractor shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.~~not stop Work for non-payment if the Owner initiates the payment process for any undisputed amounts due the Contractor.

§ 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, including all necessary testing and/or startup, and when all required occupancy permits and any other necessary permits and approvals, if any, have been issued, so that the Owner can occupy or utilize the Work for its intended use, subject only to the completion or correction of minor items of Work that will not interfere with or hinder the Owner's use of the Work and areas adjacent to the Project site.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is ~~substantially complete~~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 or correct all Work in accordance with the Contract Documents.

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§ 9.8.4 When the Work or designated portion thereof is ~~substantially complete~~Substantially Complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate- (the "punch list"), or, if no timeframe is fixed, then not greater than thirty (30) days from the date of the Certificate. Failure to include an item on the Certificate and punch list does not alter the responsibility of the Contractor to complete or correct deficiencies in the Work in accordance with the Contract Documents. 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.

§ 9.10.2 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 Project (less amounts withheld by Owner) have been paid or otherwise satisfied (unless a different form is agreed to, Contractor shall provide the AIA Document G-706, Contractors Affidavit of Payment of Debts and Claims and AIA Document G-706A, Contractors Affidavit of Release of Liens), (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of the Contractor's surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if all documents and items required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to be submitted by Contractor in accordance with the Contract Documents which shall include those items set forth in Section 3.11 which have not previously been delivered to Owner, (7) unconditional lien waivers and releases from Contractor and all Subcontractors and suppliers; and (8) if required by the Owner, other data establishing payment or satisfaction of obligations to the extent and in such form as may be designated by the Owner. 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, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance 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 lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 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 the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the 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, and following certification of an Application for Payment, the Owner shall make payment of retainage as set forth in the Agreement.

§ 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 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~~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~~Substantially Complete, the Contractor shall 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.

§ 9.9.3 Unless otherwise agreed upon in writing, 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.

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect 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 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 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 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. The Contractor shall pay all costs incurred by the Architect, Owner and Separate Contractors for costs due to excessive inspections without fault of the Architect or Owner. Unless otherwise provided in the Contract Documents, inspections to determine final completion in excess of one (1) without the fault of the Architect or Owner shall be deemed excessive.

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

.3 terms of special warranties and guarantees required by the Contract Documents;~~or~~

.4 audits performed by the Owner, if permitted by the Contract Documents, after final payment;or

.5 claims, damages, losses or expenses for indemnification.

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's safety program shall be written and a copy maintained at the Project site for inspection, upon request. Neither the Owner nor the Architect accept any responsibility or liability for the safety of the Contractor's employees or for enforcing the Contractor's safety program. Additionally, Contractor shall comply with the Owner's rules, regulations, and policies including, but not limited to, the Owner's safety, health, and infection control policies and programs.

.2the 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, a Subcontractor, or a Sub-subcontractor;and

.3other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, benchmarks, monuments, other reference points, and utilities not designated for removal, relocation, or replacement in the course of construction;and

.4 construction or operations by the Owner and Separate Contractors.

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§ 10.2.11 The Contractor shall be enrolled in and remain in good standing in the Ohio Bureau of Workers' Compensation Drug-Free Safety Program or a comparable program approved by the Bureau that meets the requirements of Ohio Revised Code 153.03. Contractor shall comply with and shall require its Subcontractors to comply with the Ohio Bureau of Workers' Compensation's Drug-Free Workplace Program requirements under Revised Code 153.03(E), and Contractor shall include language in its subcontractual agreements mandating that each Subcontractor require Sub-subcontractors to similarly comply with the Ohio Bureau of Workers' Compensation's Drug-Free Workplace Program requirements.

§ 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 give Owner and Architect reasonable advance notice thereof and shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

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, notice of the 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 and names of witnesses to enable the other party to investigate the matter.

§ 10.2.9 If a Separate Contractor incurs damages resulting from the Contractor's performance of its Work, and the

Contractor fails to remedy the damage or to reimburse the Separate Contractor for its damages, then the Owner reserves the right to pay the Separate Contractor suffering the damage and deduct such amounts from the amount due the Contractor.

§ 10.2.10 The Contractor acknowledges that the safety of the public and of the employees, invitees and guests of the Owner is of the utmost importance. While the Contractor is at the Project site, the Contractor will take no action that would jeopardize the safety of the public and of the Owner's employees, invitees or guests and, without the Owner's written approval, shall take no action that would interfere with the Owner's activities. The Owner reserves the right to require the Contractor and its employees to wear identification (subject to applicable safety standards), to stay in designated Work areas at all times while on the Owner's property and to record on a log a person's presence immediately upon entering the Owner's property. The Owner shall have the right to effect the immediate removal of a person from the Project site for failure to wear identification, for being outside a designated work area, for fraternizing with or engaging in any inappropriate behavior directed toward or in the vicinity of employees, invitees or guests of the Owner or for other good cause shown.

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§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance that is concealed or 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 notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain or cause to be obtained the services of a licensed laboratory to verify the 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 the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either 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 resume 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 by~~The Work in the affected area shall be resumed immediately following the occurrence of any one of the following events: (i) the Owner causes remedial work to be performed that results in the absence of the materials or substances or renders the material or substance harmless as evidenced by a written report which is prepared by an environmental consultant retained by Owner, or (ii) the Owner and the Contractor, by written agreement, decide to resume performance of the Work, or (iii) the Work may safely and lawfully proceed, as determined by an appropriate governmental authority. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum equitably adjusted based on the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 ~~To the fullest extent permitted by law, the~~[Intentionally Deleted].

§ 10.3.4 ~~The Owner shall indemnify and hold harmless the Contractor, Subcontractors, 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 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 hazardous 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 hazardous 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 not be responsible under this Section 10.3 for hazardous 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 hazardous 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. Hazardous materials or substances to be used at the Project site by Contractor shall be identified by a Safety Data Sheet. The Contractor shall assemble all of its applicable Safety Data Sheet in a notebook and submit it to the Architect for its information prior to a hazardous material or substance being brought to the Project site. The Contractor shall maintain all Safety Data Sheet notebooks at the Project site for the duration of the Project.

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§ 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 shall reimburse the Contractor for all cost and expense thereby incurred[Intentionally Deleted].

§ 11.1.1 The Contractor shall purchase from and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents in a company or companies rated A- or higher by Best Insurance Reports and lawfully authorized to do business in the State of Ohio 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.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located. Insurance required by Section 11.1.1 shall include and shall be written for not less than the following, or as required by law, whichever coverage is greater.

.1 Workers' Compensation: Statutory

.2Employer's Liability: (1) an each-accident limit of not less than \$1,000,000, (2) a disease each-employee limit of not less than \$1,000,000, and (3) a disease policy limit of not less than \$1,000,000;

§ 11.1.3 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.3Commercial General Liability ("CGL"): (1) an each-occurrence limit of not less than \$2,000,000, (2) a general-aggregate limit of not less than \$2,000,000, and (3) a products and completed-operations aggregate limit of not less than \$2,000,000. The CGL insurance shall provide at least equivalent coverage for liability arising from premises, operations, independent contractors, products/completed-operations (shall not exclude coverage to the additional insured(s) for bodily injury or property damage), personal and advertising injury, and liability assumed under an insured contract. The CGL insurance shall not exclude coverage for damage to electronic data. The CGL policy shall be endorsed providing equivalent coverage to provide that the general aggregate limit applies separately to each of the insured's projects;

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any

contractual obligation to provide any required coverage.4Automobile Liability: covering all owned, non-owned, and hired vehicles used in connection with the Work: Bodily injury (including death and emotional distress) and property damage with a combined single limit of \$1,000,000 each accident;

.5Umbrella/Excess Liability: Such policies shall be supplemented by an umbrella policy of additional protection in the amount of \$5,000,000 aggregate;

.6If the Contractor is required to furnish professional services as part of the Work, the Contractor shall maintain Professional Liability Insurance covering performance of the professional services, with policy limits of not less than \$1,000,000 per claim and \$1,000,000 in the aggregate; and

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§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.1.5 The Contractor shall not commence Work under the Contract until the Contractor has obtained and provided proof of all insurance required under this heading.

.7Pollution Liability: If the Work includes environmentally sensitive, hazardous types of activities (such as demolition, exterior insulation finish systems, asbestos abatement, storage-tank removal, or similar activities), or involves hazardous materials, the Contractor shall maintain a contractor's pollution liability policy with (1) a per-claim limit of not less than \$1,000,000 and (2) an annual-aggregate limit of not less than \$1,000,000, covering the acts, errors and/or omissions of the Contractor for damages (including from mold) sustained by the Owner by reason of the Contractor's performance of the Work. The policy shall have an effective date, which is on or before the date of commencement of the Work.

§ 11.2 Owner's Insurance

§ 11.2.1 The OwnerContractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. maintain required coverages without interruption from the date of commencement of the Work and for not less than five years following Substantial Completion. The Contractor shall pay all deductibles, self-insured retentions, or both contained in the policies of insurance. The Contractor shall continue to provide evidence of coverage to the Owner on an annual basis during the aforementioned period.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto1.3 The Contractor shall submit to

the Architect and the Owner a copy of certificates of insurance prior to commencement of the Work. Certificates shall include each and every type of coverage specified. Such certificates shall name the Owner and Architect as additional insureds and shall contain a statement that the Owner will be notified 30 days prior to the cancellation of any insurance policy evidenced by this certificate. The additional insureds requirements of this Section shall include completed and ongoing operations and Contractor shall provide additional insured endorsements. An additional certificate evidencing continuation of liability coverage, including coverage for completed and ongoing operations, shall be submitted with the final Application for Payment as required by Section 9.10.2. When any required insurance, due to the attainment of a normal expiration date or renewal date, shall expire, the Contractor shall supply the Owner with Certificates of Insurance and amendatory riders or endorsements that clearly evidence the continuation of all coverage in the same manner, limits of protection, and scope of coverage as was provided by the previous policy if and to the extent required to meet the insurance requirements of this Section 11.1. All renewal and replacement policies shall comply with the requirements of this Section 11.1. A failure of the Owner to request a certificate or other evidence of compliance with the insurance requirements or a failure of the Owner to identify a deficiency from evidence that is provided shall not be construed as a waiver of the Contractor's obligation to maintain the required insurance.

§ 11.1.4 The Contractor shall cause all Subcontractors to provide Workers' Compensation, Comprehensive General Liability, and Automobile Liability Insurance with commercially reasonable limits and certificates of insurance related thereto. Such certificates shall name the Owner and Architect as additional insureds.

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§ 11.1.6 All liability policies required in this Section 11.1 shall be primary and non-contributory with respect to any other insurance or self-insurance programs that cover the Owner or an additional insured.

§ 11.1.7 If Contractor fails to purchase and/or maintain any insurance required under Section 11.1, the Owner may, but shall not be obligated to, upon seven (7) days written notice to Contractor, purchase such insurance on behalf of the Contractor and shall be entitled to be reimbursed by the Contractor upon demand.

§ 11.1.8 Performance Bond and Payment Bond

§ 11.1.8.1 The Contractor shall furnish bonds as required in the Agreement between Owner and Contractor.

§ 11.1.8.2 The Contractor shall keep the surety informed of the progress of the Work, and, where necessary, obtain the surety's consent to, or waiver of, (i) notice of changes in the Work; (ii) request for reduction or release of retainage; (iii) request for final payment; and (iv) any other item required by the surety. The Owner shall be notified by the Contractor, in writing, of all communications with the surety. The Owner may, in the Owner's sole discretion, inform the surety of the progress of the Work and obtain consents as necessary to protect the Owner's rights, interests, privileges and benefits under and pursuant to any bond issued in connection with the Work. The Contractor shall be notified by the Owner, in writing, of any communications with the surety.

§ 11.1.8.3-Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property. If at any time any surety providing bonds for the Project (1) is adjudged bankrupt or has made a general assignment for the benefit of its creditors; (2) has liquidated all assets or has made a

general assignment for the benefit of its creditors; (3) is placed in receivership; (4) otherwise petitions a state or federal court for protection from its creditors; or (5) allows its license to do business in Ohio to lapse or to be revoked, then the Contractor shall immediately, but no later than 21 days of any such action listed above, provide the Owner with new bonds in the form and amount required under the Contract.

§ 11.2 Property Insurance

§ 11.2.1 Unless otherwise provided in the Agreement, 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. 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 or until no person or entity other than the Owner has an insurable interest in the property required by this Section to be covered, whichever is later.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at 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, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

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The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner. 1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include 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, tornado, flood, windstorm, explosion, breakage of glass, falsework, testing and startup, temporary buildings and structures, materials used in the construction process, hot and cold testing, and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss. Coverage shall include a provision to pay the reasonable extra costs of acceleration and expediting temporary and permanent repairs to, or permanent replacement of, damaged property (including overtime wages directly incurred to accelerate restoration or repair of the damaged property, and the extra costs that are directly incurred to rapidly transport materials and supplies necessary to the repair or replacement); soft costs coverage to the extent commercially available to comparable insureds, including the reasonable direct costs incurred by Architect and/or Contractor as a result of a property damage loss covered by the policy; and provisions for mechanical or electrical breakdown, or boiler system testing. Coverage shall be primary to all other applicable insurance. Notwithstanding any of the foregoing, the insurance shall include coverage only for those costs incurred as a direct result of direct physical damage to property otherwise covered by the policy; business income, business interruption, home office overhead, and lost productivity costs of Contractor or any subcontractor at any tier shall not be covered.

§ 11.2.1.2 If the property insurance requires minimum deductibles, the Contractor shall pay costs not covered by the insurance because of such deductibles.

§ 11.2.1.3 This property insurance shall cover portions of the Work stored off the site after written approval of the Owner at the value established in the approval, and also portions of the Work in transit.

§ 11.2.1.4 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.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

2.1.5 The insurance required by this Section 11.2 is not intended to cover machinery, tools, apparatus, scaffolding, hoists, forms, staging, shoring or other equipment owned or rented by the Contractor which are utilized in the performance of the Work but not incorporated into the permanent improvements. The Contractor shall, at the Contractor's own expense, provide insurance coverage for owned or rented machinery, tools or equipment.

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§ 11.3 WAIVERS OF SUBROGATION

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work. With respect to items of Work that are corrected, completed or first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work but prior to final completion of the Project, including completed punch list items, the one-year period with respect to these items shall commence upon correction or completion of the item.

The Contractor waives all rights against the Owner and their agents and employees for damages to the extent covered by any insurance, except rights to the proceeds of that insurance. All policies shall accomplish the waiver of subrogation by endorsement or otherwise. Contractor shall require of its Subcontractors, by appropriate written agreements, similar waivers each in favor of the Owner and Contractor; all Sub-subcontractors at every tier shall also be bound by and comply with this same requirement in their respective agreements.

§ 11.4 A loss insured under the Owner's property insurance shall be adjusted by the Owner in good faith and made payable to the Owner for the insureds, as their interests may appear. The Contractor shall pay 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. The Owner in good faith shall have power to adjust and settle a loss with insurers.

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within for a period of one year 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 any 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 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 one-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 Contractor shall correct any of the Work that is found defective in workmanship, materials or not in accordance with the requirements of the Contract Documents. If defective or nonconforming Work becomes apparent within the one-year period, the Owner shall notify the Contractor in writing. Within fourteen (14) days of receipt of said notice, the Contractor shall visit the Project in the company of one or more representatives of the Owner to determine the extent of the defective or nonconforming Work. If the defective or nonconforming Work is considered by the Owner to be an emergency, the Owner may require the Contractor to visit the Project within one (1) calendar day or less of receipt of said notice. The Contractor shall promptly repair or replace the defective or nonconforming Work, including all adjacent Work damaged as a result of such defective or nonconforming Work. The Contractor shall be fully responsible for the cost of temporary materials, facilities, utilities or equipment required during the repair or replacement of the defective or nonconforming Work. If the Contractor fails to correct defective or 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 2.5.

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§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2. One month prior to the end of the one (1) year period, the Contractor shall attend a walk-through of the Project scheduled by the Architect.

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. The acceptance of nonconforming Work by the Owner shall be by written Change Order.

The Contract shall be governed by the laws of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4. State of Ohio. Any suit, which may be brought to enforce any provision of this Agreement or any remedy with respect hereto, shall be brought in the Common Pleas Court of the County where the Project is located which shall have exclusive jurisdiction to the exclusion of all other jurisdictions. The applicable statutes of limitations and repose under Ohio law shall apply to all causes of action between the Owner and Contractor.

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder are cumulative and shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

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§ 13.7.1.1. That, in the hiring of employees for the performance of Work under the Contract or any Subcontract, Contractor and any Subcontractor or person acting on Contractor's or a Subcontractor's behalf shall not discriminate against any citizen of the state who are qualified and available to perform the services to which the employment relates by reason of race, color, religion, sex, age, disability, military status as defined in section 4112.01 of the Revised Code, veteran status, national origin, ancestry, sexual orientation, gender identity (including gender expression), marital status or genetics; and

§ 13.4.1 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 be present at and shall give the Architect timely notice of when and where tests and inspections are to be made, including intermediate and final inspections, so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for

tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 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. The Contractor also agrees the cost of testing services required for the convenience of the Contractor in the scheduling and performance of the Work, and the cost of testing services related to remedial operations performed to correct deficiencies in the Work, shall be borne by the Contractor.

§ 13.4.7 Any reports or documents resulting from tests, inspections and approvals required under this Section 13.4 shall be submitted to the Owner and Architect.

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate set forth in the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located Agreement.

§ 13.6 Training Sessions

The Contractor will participate in training sessions for the Owner in cooperation with the Architect, Owner, Owner's personnel and consultants and the Contractor will participate in tests in cooperation with the Architect, Owner, Owner's personnel and consultants to the extent applicable to the Contractor's Work.

§ 13.7 Equal Opportunity

§ 13.7.1 The Contractor shall comply with applicable law regarding equal employment opportunity, including Ohio Revised Code Section 153.59. The Contractor shall cooperate fully with the State's Equal Opportunity Coordinator, with any other official or agency of the state or federal government that seeks to eliminate unlawful employment discrimination, and with all other state and federal efforts to assure equal employment practices under the Contract. The Contractor agrees to the following:

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§ 13.7.1.2. That Contractor and any Subcontractor or person acting on Contractor's or a Subcontractor's behalf shall not in any manner discriminate against, intimidate, or retaliate against any employee hired for the performance of services under the Contract on account of race, color, religion, sex, age, disability, military status, veteran status, national origin, ancestry, sexual orientation, gender identity (including gender expression), marital status or genetics.

§ 13.7.2. In the event the Contractor fails to comply with these nondiscrimination clauses, the Contractor shall be subject to the forfeiture requirements of Ohio Revised Code Section 153.60.

§ 13.7.3 Hiring Under State Public Improvement Contracts. Any provision of a hiring hall contract or agreement which obligates the Contractor to hire, if available, only employees referred to the Contractor by a labor organization shall be void as against public policy and unenforceable with respect to employment under any public improvement contract unless at the date of execution of the hiring hall contract or agreement, or within thirty (30) days thereafter, the labor organization has procedures in effect for referring qualified employees for hire without regard to race, color, religion, national origin, military status as defined in Ohio Revised Code Section 4112.01, or ancestry and unless the labor organization includes in its apprentice and journeyperson's membership, or otherwise has available for job referral without discrimination, qualified employees, both whites and non-whites (including African-Americans).

§ 13.8 The table of contents, titles, headings, running headlines and marginal notes contained in the Contract are solely to facilitate reference to various provisions of the Contract Documents and in no way affect, limit or describe or limit the interpretation of the provisions to which they refer.

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 3075 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or

entities performing portions of the Work, for any of the following reasons:

- .1Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped; or
- .2An act of government, such as a declaration of national emergency, that requires all Work to be stopped; or
- .3Because 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 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or,
- .4The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2[Intentionally Deleted].

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon ~~seven~~thirty days' notice to the Owner and Architect, terminate the Contract and ~~recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.~~

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work 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' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3: provided that the reason for the termination is not cured within the thirty-day period and recover from the Owner payment for Work executed as of the date of termination, but not overhead and profit on Work not executed and not to exceed the Contract Sum (however, if such reason for termination cannot reasonably be cured within the thirty-day period, then Contractor shall not terminate the Contract so long as Owner commences to cure the reason for termination within such thirty-day period and diligently pursues such cure).

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.2fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or ~~suppliers~~Suppliers;

.4 otherwise is ~~guilty of substantial~~in material breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, ~~and upon certification by the Architect that sufficient cause exists to justify such action,~~ the Owner may, 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' notice, and provided that the reason for the termination is not cured within the seven-day period, terminate employment of the Contractor and ~~may, subject to any prior rights of the surety/or~~ exercise the following non-exclusive remedies which will be cumulative:

.3Finish 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~~general accounting of the costs incurred by the Owner in finishing the Work.

§ 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 then Contractor shall be paid to the Contractor for Work that it satisfactorily performed prior to the date of termination but not to exceed such excess unpaid balance.~~ If such costs and damages exceed the unpaid balance, the Contractor and the Contractor's surety shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.2.5 Should the Owner terminate this Agreement for cause under this Section 14.2, but that cause be subsequently found insufficient to support termination, the termination shall be deemed one of convenience under Section 14.4.

§ 14.2.6 If the Contract is terminated for cause, the Contractor's surety may perform the Contract. If the Contractor's surety does not commence performance of the Contract within ten (10) days of the date of Contract termination, the Owner may complete the Work by means the Owner determines appropriate. If the Contractor's surety performs the Work, the provisions of the Contract Documents govern the surety's performance, with the surety in place of the Contractor in all provisions including, but not limited to, provisions for payment for the Work, and provisions of the right of the Owner to complete the Work.

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

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

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§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall with respect to the Work that is terminated:

.3except 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; and

.4deliver to Owner all Project-related documents and work product of Contractor and its Subcontractors related to the Work.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement. If the Contract is terminated in accordance with this Section 14.4, the Owner will pay the Contractor, i) for Work performed under the Contract up to the date the notice of termination is received by the Contractor at the rates for Work performed under the Contract, including overhead and profit up to the date of termination and reasonable expenses directly attributable to the termination, but not for overhead or lost profit on unperformed Work, ii) for Work performed at the direction of the Owner on and after the date on which the notice of termination is received by the Contractor, as determined by the procedures applicable to Construction Change Directives, and iii) for Work necessary to protect and preserve the Work, as determined by the procedures applicable to Construction Change Directives..

§ 14.4.4 The termination of the Contract under this Section 14.4 shall be without prejudice to rights or remedies which exist at the time of termination.

§ 14.5 Contractor Insolvency

§ 14.5.1 The Owner may immediately terminate the Agreement for cause if:

§ 14.5.1.1 the Contractor commences a voluntary case under Title 11 of the United States Code or the corresponding provisions of any successor laws; or

§ 14.5.1.2 any legal entity commences an involuntary case against the Contractor under Title 11 of the United States Code or the corresponding provisions of any successor laws and (1) the case is not dismissed within 60 days after its commencement; or (2) the court before which the case is pending issues an order for relief or similar order approving the case; or

§ 14.5.1.3 a court of competent jurisdiction appoints, or the Contractor makes an assignment of all or substantially all of its assets to, a receiver, trustee, liquidator, or other similar custodian for the Contractor or all or substantially all of the Contractor's assets; or

§ 14.5.1.4 any attachment, execution, or other judicial seizure is levied against all or substantially all of the Contractor's

assets; or

§ 14.5.1.5 the Contractor takes any action toward the dissolution or winding up of its business; or

§ 14.5.1.6 the Contractor fails generally to pay its debts as they become due (unless those debts are subject to a good-faith dispute as to liability or amount) or it acknowledges in writing that it is unable to do so.

§ 14.5.2 If the Contractor files a voluntary petition in bankruptcy or has an involuntary petition in bankruptcy filed against it, the Contractor, the Contractor as the debtor-in-possession, or the trustee of the Contractor's bankruptcy estate shall file a motion to assume or reject the Contract under Bankruptcy Code §365, 11 U.S.C. §365, within 20 days after the filing of the voluntary petition or involuntary petition and shall diligently prosecute that motion to conclusion so as to obtain an order granting or denying that motion within 45 days after the filing of the voluntary or involuntary petition.

§ 14.5.3 If the Owner intends to exercise its termination rights under this Section 14.5, the Owner shall notify the Contractor in writing of the Owner's termination of the Contract and the cause(s) for that termination.

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§ 14.5.4 The Contractor agrees to the granting of relief from the automatic stay of the Bankruptcy Code, 11 U.S.C. §362(a), to permit the Owner to terminate the Contract for cause in such instance and issue and serve all notices necessary to terminate the Contract or arising out of the termination of the Contract and to take any and all other action necessary to terminate the Contract.

A Claim is a demand or assertion by ~~one of the parties~~Contractor seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question ~~between~~asserted by 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. ~~This Section 15.1.4 Contractor. The Contract, including but not limited to this Article 15 does not require the Owner to file~~make a Claim in order to impose liquidated damages claim, dispute, demand or assertion against the Contractor for the payment of money, a change in the Contract Time or other relief or in order for the Owner to exercise its rights and remedies against the Contractor, including but not limited to the remedying of a Contractor default, the imposition of liquidated damages and binding dispute resolution in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims~~Causes of Action~~

The Owner and Contractor shall commence all ~~Claims and causes of action~~ against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, ~~but in any case not more than 10 years after the date of Substantial Completion of the Work~~statute of limitation and repose. The Owner and Contractor waive all ~~Claims and causes of action~~ not commenced in accordance with this Section 15.1.2.

§ 15.1.3.1 Claims by either the Owner or Time Limit on Claims. A Claim or Claims by Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the ~~other party~~Owner 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~~the Contractor under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the ~~claimant~~Contractor first recognizes the condition giving rise to the Claim, whichever is later. Failure to submit proper and timely notice in accordance with this Section shall constitute a waiver and abandonment of the Claim by Contractor.

§ 15.1.3.2 Contractor Claims by either and claims by the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

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§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, provided such Claim shall be is 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, the Contract Time will be extended by one (1) day for each work day lost due to weather that delays Work on the critical path in excess of those in the following table:

Month

Number of Workdays Lost Due to Weather

January

8

February

8

March

7

April

6

May

5

June

4

July

4

August

4

September

5

October

6

November

6

December

6

§ 15.1.6.3 The Contractor shall not be entitled to a separate increase in the Contract Time for each one of the number of causes of delay which may have concurrent or interrelated effects on the progress of the Work, or for concurrent delays due to the fault of the Contractor

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

.2damages 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 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents, nor shall this Section 15.1.7 apply to a party's gross negligence, willful misconduct or indemnity obligations.

§ 15.1.8 Substantiation and Certification of Claim

§ 15.1.8.1 Substantiation of Claim. Within fifteen (15) days after the initiation of a Claim by Contractor, the Contractor shall substantiate its Claim by providing the following minimum written information to Owner: (i) a narrative of the circumstances which gave rise to the Claim, including, without limitation, the start date of the event or events and the actual, or anticipated, finish date; (ii) detailed identification of the Work affected by the event giving rise to the Claim; (iii) copies of the Contractor's daily log for each day of impact; (iv) copies of relevant correspondence and other information regarding or supporting Contractor's entitlement; (v) copies of the Contractor's most recent income statement, including segregated general and administrative expenses for the most recent reporting period, and for the period of the Contract, if available, and similar information for any Subcontractor claim included; (vi) if the Claim is for additional cost, the amount of the Claim, the information specified in Section 15.1.5 herein and a statement that the increase requested is the entire increase in the Contract Sum associated with the Claim; (vii) if the Claim is for additional Contract Time, the information specified in Section 15.1.6 herein. Contractor shall also provide such additional information as requested by Owner or Architect to substantiate the Contractor's Claim within ten (10) days following request. The Contractor shall provide the required information in the formats requested, which include both paper and electronic copies. The Contractor's failure to comply with the requirements of this Section shall constitute an irrevocable waiver of the Claim.

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§ 15.1.8.2 Certification of Claim. Within fifteen (15) days after the initiation of the Claim by Contractor, the Contractor shall certify its Claim by providing the notarized certification, signed and dated by the Contractor, as follows: "The undersigned Contractor certifies that the Claim is made in good faith; that the supporting data is accurate and complete to the best of the Contractor's knowledge and belief; that the amount requested is a fair, reasonable, and necessary adjustment for which the Contractor believes the Owner is liable; and that the undersigned is duly authorized to certify the Claim on behalf of the Contractor." The Contractor's failure to comply with the requirements of this Section shall constitute an irrevocable waiver of the Claim.

§ 15.2.1 Contractor Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 40 and 10.4, and 11.5, 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. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, ~~the party asserting the Claim~~ Contractor may demand mediation and binding dispute resolution without a 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~~Contractor or a response with supporting data from the ~~other party~~Owner, (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.

§ 15.2.4 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 the 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.~~

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

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§ 15.3.1 ~~Claims, disputes~~Disputes, or other matters in controversy between the parties, including a Claim, arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their ~~Claims~~disputes or other matters in controversy 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.

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 10:58:18 EDT on 10/05/2026 under Order No. 20240033079 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ - 2017, General Conditions of the Contract for Construction, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

BID FORM

Project: Dublin City School District, 2027 Roof Replacement at Wright Elementary School

The undersigned, having read and examined the premises and the Contract Documents, including without limitation the Drawings and Specifications, prepared for the above-referenced Project, and the following Addenda:

Addendum Number	Date of Receipt
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

submits its Bid for the Project.

The Contractor acknowledges that all Work shall be completed within the time established in the Contract Documents, and that each applicable portion of the Work shall be completed upon the respective milestone completion dates, unless an extension of time is granted in accordance with the Contract Documents.

The undersigned Bidder proposes to perform all Work for the applicable Contract, in accordance with the Contract Documents, for the following sums:

ITEM 1. BASE BID (Including Allowances as specified in Section 01 21 00 Allowances) –
ALL LABOR AND MATERIALS, for the sum of \$ _____
Sum in words: _____

ITEM 2. ALTERNATES

ALTERNATE 1: Sheet Metal Fascia and Soffit Replacement (Including Allowances as specified in Section 01 21 00 Allowances)

If Alternate is accepted: ADD TO/DEDUCT FROM Base Bid (Circle appropriate choice):

\$ _____

Sum in words: _____

ITEM 3. UNIT PRICES (for informational purposes only)

Unit Price #	Description	Unit Price	Unit of Measure
1	Prepare the existing steel roof decking by removing corrosion and paint the existing roof decking.	\$ _____	Sq. Ft.
2	Removal and replacement of areas of deteriorated steel roof decking.	\$ _____	Sq. Ft.
3	Prepare existing light gauge steel roof framing by removing corrosion and painting.	\$ _____	Per Hour
4	Remove and replace 5/8" FRT treated plywood sheathing (roof or wall).	\$ _____	Per Sheet
5	Roofing Foreman*	\$ _____	Per Hour
6	Roofing Mechanic*	\$ _____	Per Hour
7	Sheet Metal Foreman*	\$ _____	Per Hour
8	Sheet Metal Mechanic*	\$ _____	Per Hour
9	Plastering Foreman*	\$ _____	Per Hour
10	Plastering Mechanic*	\$ _____	Per Hour
11	Laborer*	\$ _____	Per Hour

*Hourly rate unit prices to reflect rate of the trade to complete additional required work. These rates are to include base rate, fringes, payroll burden, overhead, and profit.

BIDDER'S CERTIFICATION

The Bidder hereby acknowledges that the following representations in this Bid are material and not mere recitals:

1. Bidder has read and understands the Contract Documents and agrees to comply with all requirements of the Contract Documents, regardless of whether the Bidder has actual knowledge of the requirements and regardless of any statement or omission made by the Bidder which might indicate a contrary intention.

2. The Bidder represents that the Bid is based upon the standards specified by the Contract Documents.
3. The Bidder has visited the Project site, become familiar with local conditions and has correlated personal observations about the requirements of the Contract Documents. The Bidder has no outstanding questions regarding the interpretation of the Contract Documents.
4. The Bidder understands that the award of separate contracts for the Project will require sequential, coordinated and interrelated operations which may involve interference, disruption, hindrance or delay in the progress of the Bidder's Work. The Bidder agrees that the Contract Sum, as amended from time to time by Change Order, shall cover all amounts due from the Owner resulting from interference, disruption, hindrance or delay caused by or between Contractors or their agents and employees. The Bidder agrees that any such interference, disruption, hindrance or delay is within the contemplation of the Bidder and the Owner and that a Contractor's sole remedy for such interference, disruption, hindrance or delay shall be an extension of time in accordance with the Contract Documents. This provision is intended to be, and shall be construed as, consistent with and not in conflict with, Section 4113.62, ORC, to the fullest extent permitted.
5. The Bidder and each person signing on behalf of the Bidder certifies, and in the case of a joint or combined Bid, each party thereto certifies as to such party's organization, under penalty of perjury, that to the best of the undersigned's knowledge and belief: (a) the Base Bid, any Unit Prices and any Alternate Bid in the Bid have been arrived at independently without collusion, consultation, communication or agreement for the purpose of restricting competition as to any matter relating to such Base Bid, Unit Prices or Alternate Bid with any other Bidder; (b) unless otherwise required by law, the Base Bid, any Unit Prices and any Alternate Bid in the Bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder prior to the Bid opening, directly or indirectly, to any other Bidder who would have any interest in the Base Bid, Unit Prices or Alternate Bid; (c) no attempt has been made or will be made by the Bidder to induce any other individual, partnership or corporation to submit or not to submit a Bid for the purpose of restricting competition.
6. Bidder will enter into and execute the Agreement with the Owner, if a Contract is awarded on the basis of this Bid, and if the Bidder does not execute an Agreement for any reason, other than as authorized by law, the Bidder and the Bidder's Surety are liable to the Owner as provided in the Ohio Revised Code and as applicable to the Owner.
7. Bidder certifies that the upon the award of a Contract, it will make a good faith effort to ensure that all of its employees, while working on the site of the Project, will not purchase, transfer, use or possess illegal drugs or alcohol or abuse prescription drugs in any way.
8. Bidder agrees to furnish any information requested by the Owner to evaluate the responsibility of the Bidder.
9. The Bidder certifies that upon the execution of the Contract, the Contractor shall be enrolled in good standing in the Ohio Bureau of Workers' Compensation Drug-Free Workplace Program (DFWP) or an equivalent BWC approved DFWP throughout the entire Project, in accordance with Ohio Revised Code Sections 153.03 to 153.031. The Bidder shall ensure that all Subcontractors to be enrolled in good standing in the Ohio Bureau of Workers' Compensation DFWP or comparable Bureau of Workers' Compensation approved program that meets the requirements specified in Ohio Revised Code Sections 153.03 to 153.031, prior to the Subcontractor providing labor at the Project site.

Each Bid shall contain the name of every person interested therein. If the Bidder is a corporation, partnership or sole proprietorship, an officer, partner or principal of the Bidder, as applicable, shall print or type the legal name of the Bidder on the line provided and **sign the Bid Form**. If the Bidder is a joint venture, an officer, partner or principal, as applicable, of each member of the joint venture shall print or type the legal name of the applicable member on the line provided and sign the Bid Form.

BIDDER SIGNATURE AND INFORMATION

Bidder's Authorized Signature: _____

Bidder is: (check one): _____ Corporation _____ Partnership _____ Individual Proprietorship

Please print or type the following:

Name of Bidder's Authorized Signatory: _____

Title of Bidder's Authorized Signatory: _____

Company Name: _____

Mailing Address: _____

Telephone Number: _____

Facsimile Number: _____

Email Address: _____

State of Incorporation: _____

Federal Tax ID Number: _____

Contractor's Designated Project Representative:

Print Name: _____

Title: _____

E-mail: _____

CONTRACTOR'S PERSONAL PROPERTY TAX AFFIDAVIT
(O.R.C. § 5719.042)

State of Ohio

County of _____, ss:

_____ ("Affiant"), being first duly sworn, deposes and says that
(Name)

Affiant is the _____ of _____
(Title) (Name and Address of Contractor)

_____ (the "Contractor") and
as the Contractor's duly authorized representative, states that effective this ____ day of _____, 20____,
the Contractor:

- () is charged with delinquent personal property taxes on the general list of personal property as set forth below:

<u>County</u>	<u>Amount</u> (include total amount penalties and interest thereon)
_____ County	\$ _____
_____ County	\$ _____
_____ County	\$ _____

- () is not charged with delinquent personal property taxes on the general list of personal property in any Ohio county.

(Affiant)

Sworn to or affirmed and subscribed before me by the above-named Affiant on this ____ day of _____, 20____.

Signature of Notary Public – State of Ohio

My commission expires: _____
(date)

BID GUARANTY AND CONTRACT BOND

(As prescribed by Section 153.571, ORC)

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned _____

_____ as Principal at

(Address) and _____

as Surety, are hereby held and firmly bound unto the _____

_____ as Oblige in the penal sum of the dollar amount of the bid
submitted by the Principal to the Oblige on (date) _____, 20__ to undertake

the Project known as:

The penal sum, referred to herein, shall be the dollar amount of the Principal's bid to the Oblige, incorporating any additive or deductive alternate bids made by the Principal on the date referred to above to the Oblige, which are accepted by the Oblige. In no case shall the penal sum exceed the amount of \$ _____. (If the penal sum is left blank, the penal sum will be the full amount of the Principal's bid, including alternate bids. Alternatively, if completed, the amount stated must not be less than the full amount of the bid, including add alternate bids, in dollars and cents. A percentage is not acceptable.) For the payment of the penal sum well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above-named Principal has submitted a bid on the above-referenced to Project.

NOW, THEREFORE, if the Oblige accepts the bid of the Principal, and the Principal fails to enter into a proper contract in accordance with the bid, plans, details, specifications and bills of

material; and in the event the Principal pays to the Obligee the difference not to exceed ten percent (10%) of the penalty hereof between the amount specified in the bid and such larger amount for which the Obligee may in good faith contract with the next lowest bidder to perform the Work covered by the bid; or resubmits the Project for bidding, the Principal will pay the Obligee the difference not to exceed ten percent (10%) of the penalty hereof between the amount specified in the bid, or the costs, in connection with the resubmission, of printing new contract documents, required advertising and the printing and mailing notices to prospective bidders, whichever is less, then this obligation shall be null and void, otherwise to remain in full force and effect, if the Obligee accepts the bid of the Principal, and the Principal, within ten (10) days after the awarding of the contract, enters into a proper contract in accordance with the bid, plans, details, specifications and bills of material, which said contract is made a part of this bond the same as though set forth herein; and

IF THE SAID Principal shall well and faithfully perform each and every condition of such contract; and indemnify the Obligee against all damage suffered by failure to perform such contract according to the provisions thereof and in accordance with the plans, details, specifications and bills of material therefor; and shall pay all lawful claims of subcontractors, materialmen and laborers for labor performed and materials furnished in the carrying forward, performing or completing of said contract; we, agreeing and assenting to, that this undertaking shall be for the benefit of any materialman or laborer having a just claim, as well as for the Obligee herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

THE SAID Surety hereby stipulates and agrees that no modifications, omissions or additions, in or to the terms of said contract or in or to the plans and specifications, therefore, shall in any wise affect the obligations of said Surety on its bond, and it does hereby waive notice of any such modifications, omissions or additions to the terms of the contract or to the work or to the specifications. The said Surety further stipulates that it is authorized to execute bonds in the State of Ohio, and that the liability incurred is within the limits of Section 3929.02, ORC.

SIGNED this _____ day of _____, 20__.

PRINCIPAL:

By: _____

Title: _____

SURETY:

Address: _____

Phone: (____) _____

By: _____

Attorney-in-Fact

SURETY AGENT:

Address: _____

Phone: (____) _____



Sales and Use Tax Construction Contract Exemption Certificate

[Reset Form](#)

Identification of Contract:

Contractee's (owner's) name Board of Education of the Dublin City School District

Exact location of job/project 2335 West Case Road, Columbus, Ohio, 43235

Name of job/project as it appears on contract documentation 2027 Roof Replacement at Wright Elementary School

The undersigned hereby certifies that the tangible personal property purchased under this exemption certificate is purchased exempt of the tax for incorporation into:

☐	A building used exclusively for charitable purposes by a nonprofit organization operated exclusively for charitable purposes as defined in Ohio Revised Code (R.C.) section 5739.02(B)(12);	☐	Real property that is owned, or will be accepted for ownership at the time of completion, by the United States government, its agencies, the state of Ohio or an Ohio political subdivision;
☐	A horticulture structure or livestock structure for a person engaged in the business of horticulture or producing livestock;	☒	Real property under a construction contract with the United States government, its agencies, the state of Ohio, or an Ohio political subdivision;
☐	The construction or improvement of a sports facility under R.C. section 307.696;	☐	A building under a construction contract with an organization exempt from taxation under section 501(c)(3) of the Internal Revenue Code of 1986 when the building is to be used exclusively for the organization's exempt purposes;
☐	A hospital facility entitled to exemption under R.C. section 140.08;	☐	A house of public worship or religious education;
☐	A computer data center entitled to exemption under R.C. 122.175; ___ % exempt per OH Dept. of Development	☐	Building and construction materials and services sold for incorporation into real property comprising a convention center that qualifies for property tax exemption under R.C. 5709.084 (until one calendar year after the construction is completed).
☐	A megaproject entitled to exemption as described in R.C. 5739.02(B)(13).		
☐	Real property outside this state if such materials and services, when sold to a construction contractor in the state in which the real property is located for incorporation into real property in that state, would be exempt from a tax on sales levied by that state;		

The original of this certificate must be signed by the owner/contractee and/or government official and must be retained by the prime contractor. Copies must be maintained by the owner/contractee and all subcontractors. When copies are issued to suppliers when purchasing materials, each copy must be signed by the contractor or subcontractor making the purchase.

Prime Contractor

Name _____

Signed by _____

Title _____

Street address _____

City, state, ZIP code _____

Date _____

Subcontractor

Name _____

Signed by _____

Title _____

Street address _____

City, state, ZIP code _____

Date _____

Owner/Contractee

Name Board of Education of the Dublin City School District

Signed by _____

Title _____

Street address 6371A Shier Rings Road

City, state, ZIP code Dublin, Ohio 43016

Date _____

Political Subdivision

Name Same as Owner/Contractee

Signed by _____

Title _____

Street address _____

City, state, ZIP code _____

Date _____



VENDOR CRIMINAL HISTORY RECORD CHECK

In adherence with the District's ongoing and continuous pursuit to ensure a safe environment for all students, staff and guests, the following procedure applies to all individuals employed by a private company engaged in services provided to the District (a "vendor").

No such individual/vendor shall be permitted to work within the District unless the vendor provides proof of the following to the Chief Operating Officer or their designee:

- 1. that the individual has been the subject of a criminal records check in accordance with R.C. 3319.39 within the last 365 days immediately prior to the date on which the person will begin working in the District; and*
- 2. that the criminal records check indicates that the individuals has not been convicted of or pleaded guilty to any offense described in R.C. 3319.39(B)(1); and*
- 3. that, if requested by the District, the criminal record has been submitted for District review and approval/denial if it indicates that the individual has been convicted of or pleaded guilty to any felony or other offence described in R.C. 2923.01-03; and*
- 4. all convictions noted on the background check will be subject to review. The Operations department has the right to request and collaboratively review all vendor background checks with the Human Resource Department. In addition to the mandatory exclusions listed above, other convictions may result in exclusion.*

Vendors shall be responsible for obtaining all criminal record checks which must be performed by an authorized/accredited agent and conducted by both the Bureau of Criminal Identification/Investigation and Federal Bureau of Investigation. A full list of locations can be found on the [Ohio Attorney General's web page](#). Vendors shall certify in writing on company letterhead the names of all individuals who will be working on District property who meet the requirements outlined above. The District reserves the right to audit background check reports to confirm legitimacy. Cleared reports need not be delivered to the District beyond aforementioned certification unless requested by the District.

The certification template provided should be sent electronically to District Operations c/o: background_check@dublinschools.net. Once the certification has been accepted, the District will notify the vendor that they have been approved to collect an identification badge from the Operations department.

Emergency work performed by a vendor who has not yet completed the criminal record check and certification process must be escorted by a Dublin City Schools employee at all times.

Additional information related to the criminal history record procedure can be found [on the District website](#).

VENDOR LOGO HERE

Vendor Name: _____

Vendor Address: _____

Vendor Contact Phone Number: _____

Vendor Contact Email: _____

Project Name: _____

Project Location(s): _____

Project DCSD Contact: _____

Estimated Project End Date: _____

VENDOR CRIMINAL HISTORY RECORD CHECK

The following employees have obtained a criminal record check in accordance with R.C 3319.39 within the last 365 days and the criminal record check indicates that the individual(s) have not been convicted of or pleaded guilty to any offense described in R.C 3319.39(B)(1) or other offense described in R.C. 2923.01-03;

Name	Date of Clearance

We understand that the District reserves the right to request and audit criminal history record check reports to confirm legitimacy.

Printed Name: _____ Date: _____

Signature: _____

ASBESTOS ROOF SAMPLING REPORT

***Dublin City School District
Roof Replacement Project
Daniel Wright Elementary School
2335 West Case Road
Dublin, Ohio 43017***

(L&A Project 25-0161)



Prepared for:

***Mr. Jim Mays
Operations Manager
Mays Consulting & Evaluation Services, Inc.
201 Pennsylvania Avenue P.O Box 1020
Delaware, Ohio 43015
(740) 363-9511***

Prepared by:

***Lawhon & Associates, Inc.
1441 King Ave
Columbus, Ohio 43212
(614) 481-8600***

May 27, 2025



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- B. Asbestos Bulk Sample Location Diagram
- C. Asbestos Bulk Sample Summary
- D. Inventory of Asbestos Containing Materials
- E. Asbestos Laboratory Analysis Certificates and Chain of Custody

Asbestos Roof Sampling Report
Dublin City School District, Daniel Wright Elementary School
Roof Replacement Project
Dublin, Ohio 43235
(L&A Project 25-0161)

1.0 Introduction

Lawhon & Associates, Inc. (L&A) conducted an asbestos containing roofing materials assessment at the Dublin City School District Daniel Wright Elementary School located at 2335 West Case Road Dublin, Ohio 43235. The inspection was conducted on May 08, 2025, by Mr. Domanic Martin, Ohio Environmental Protection Agency (OEPA) Certified Asbestos Hazard Evaluation Specialist (CAHES) [AHES #ES35856] of L&A. The consultant's certifications are attached in **Appendix A**.

The inspection was limited to roofing and other materials which may be impacted by the roof replacement project. L&A inspected all accessible materials (for the presence of asbestos containing materials) throughout the specified roofing areas. Roof sample locations were cored and patched by a qualified roofing contractor secured by Mays Consulting & Evaluation Services, Inc. This report should not be utilized as a full building report or for remediation/bidding purposes. This report conforms to the requirements of EPA NESHAPs prior to renovation for this project.

2.0 Asbestos Containing Material Summaries

Asbestos containing materials are governed by the Environmental Protection Agency's (EPA) National Emission Standards of Hazardous Air Pollutants (NESHAP) during demolition. These materials are defined as containing greater than one percent asbestos. The Occupational Safety and Health Administration (OSHA) govern building materials containing any amount of asbestos.

The Clean Air Act (CAA) of 1970 required the EPA to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health; therefore, EPA promulgated the National Emission Standards for Hazardous Air Pollutants (NESHAP) (Title 40, CFR Part 61) on April 6, 1973. NESHAP is intended to minimize the release of asbestos fibers during certain activities (i.e., renovations, demolition, and installations). It specifies work practices to be followed during renovations of buildings (except apartment buildings that have no more than four dwelling units), which contain a specific amount of friable asbestos. NESHAP requires that buildings be inspected for asbestos containing building materials (ACBM) prior to renovation/demolition projects regardless of the age of the structure.

NESHAP also requires owners and operators subject to the asbestos rules to notify delegated state and local agencies and/or the regional EPA offices before demolition or renovation activities begin. In addition, NESHAP requires the removal of all regulated asbestos containing materials (RACM) prior to demolition. Regulated Asbestos-Containing Materials (RACM) are (a) friable asbestos material, which are materials easily reduced to powder with hand pressure (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation

operations. (Category I non-friable materials consist of materials such as resilient floor covering products, roofing products, gaskets, and packing. Category II non-friable materials consist of all other non-friable materials such as transite.). NESHAP also requires all ACM (including Category I and II) be removed prior to intentional burning, such as for a fire department training exercise.

The Ohio Environmental Protection Agency (OEPA) regulates asbestos activities within the state. Professionals performing asbestos related activities must be certified/ licensed by OEPA. The OEPA must be notified prior to asbestos removal activities.

2.1 Methodology

A list of suspect ACMs was compiled from the investigation of the roof(s). Materials were categorized into RACM, Category I, and Category II materials. L&A inventoried and procured confirmatory samples of suspect asbestos containing materials.

Materials suspected of containing asbestos were grouped into homogeneous areas for bulk sampling purposes. A homogeneous area is composed of specific material that appears to be the same in color, texture, date of installation or location (e.g., grey spray-applied fireproofing in a specific construction unit).

The number of bulk samples to be procured for each identified homogeneous area of suspected Surfacing Materials, Thermal System Insulations, and Miscellaneous Materials were determined in accordance with 40 CFR 763.

Bulk sample locations for suspect materials sampled by L&A, and the name and signature and asbestos hazard evaluation specialist number of each person who collected samples are shown on the Asbestos Bulk Sample Diagram found in **Appendix B**.

Samples were placed into clean sealed containers and identified with a unique sample number. Sampling tools were decontaminated between each sampling episode.

All samples were sent to certified National Voluntary Lab Accredited Program laboratories. The lab used for sample analysis of asbestos on this project was SanAir (NVLAP #600227-0) located at 11709 Chesterdale Road, Cincinnati, Ohio 45246. Samples were analyzed by the EPA Polarized Light Microscopy (PLM) 600 Method. Samples reported with low concentrations of asbestos, <3% asbestos content, were reanalyzed using the EPA Point Count Method to determine a more accurate content.

3.0 Asbestos Containing Materials Summaries

The following tables present ACM summaries. A site diagram depicting bulk sample locations can be found in **Appendix B**. A bulk sample summary form summarizing the asbestos bulk samples collected and analyzed is attached in **Appendix C**. An inventory of asbestos containing materials can be found in **Appendix D**. Laboratory analysis certificates and chain of custody information can be found in **Appendix E**.

3.1 Confirmed Asbestos Containing Materials

As a result of the inspection, the materials below projected to be impacted during renovations were found to contain asbestos. Materials uncovered during renovations that are not listed in the table(s) below should be assumed to contain asbestos until further analysis proves otherwise.

Confirmed Asbestos Containing Material
Transite on Faux Slate Roofs

3.2 Assumed Asbestos Containing Materials

As a result of the inspection, all suspect materials were bulk sampled as a part of this effort. Therefore, no materials projected to be impacted by the roof replacement project are assumed to contain asbestos.

3.3 Non-Asbestos Containing Materials

The following table lists materials sampled with laboratory analysis revealing no asbestos detected. If any additional suspect materials are uncovered during renovations, those materials must be assumed to contain asbestos until further analysis proves otherwise.

Non-Asbestos Containing Material	
Roofing Materials - Field	Roofing Materials - Flashing
Coating on Styrofoam Wall	Various Sealants
Louver Caulking	Roofing Materials - Shingle and Felt
Lead Vent Undercoating	

4.0 Other Hazardous Materials

4.1 Lead Wrapped Roof Vents / Pipes

L&A observed bulk lead wrapped vent/pipe covers. Contractors working with lead products will need to conform to the OSHA Lead in Construction Standard 1926.62. Should these materials be removed and replaced, the bulk lead should be properly handled and recycled.

5.0 Conclusions

Lawhon & Associates, Inc. (L&A) conducted an asbestos containing roofing materials assessment at the Dublin City School District Daniel Wright Elementary School located at 2335 West Case Road Dublin, Ohio 43235. The inspection was conducted on May 08, 2025, by Mr. Domanic Martin

The inspection was limited to roofing and other materials which may be impacted by the roof replacement project. L&A inspected all accessible materials (for the presence of asbestos containing materials) throughout the specified roofing areas. Roof sample locations were cored and patched by a qualified roofing contractor secured by Mays Consulting & Evaluation Services, Inc. This report conforms to the requirements of EPA NESHAPs prior to renovation for this project.

5.1 Asbestos Containing Materials Summary

As a result of the inspection, the materials below, identified and projected to be impacted by the roof replacement project contain asbestos. If materials are uncovered during renovations that are not listed in this report, those materials should be assumed to contain asbestos until further analysis proves otherwise.

- Transite on Faux Slate Roofs (Category II Non-Friable)

This report conforms to the requirements of the Environmental Protection Agency (EPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) prior to renovations for this project. This document is not to be construed as a remediation design or used for bidding purposes. If you have any further questions, please contact Jordan Mederer at (614) 481-8600.

Sincerely,



Domanic Martin
Asbestos and Lead Specialist
AHES #ES35856



Jordan Mederer
Practice Leader, HBM
AHES #ES35005

APPENDIX A

Inspector's Certifications



Mike DeWine, Governor
Jon Husted, Lt. Governor
Anne M. Vogel, Director

12/13/2024

Domanic Martin
Lawhon & Associates, Inc.
1441 King Avenue
Columbus, OH 43212

RE: Evaluation Specialist
Certification Number: ES35856
Expiration Date: 1/13/2026

Dear Domanic Martin:

This letter and enclosed certification card approves your request to be certified as an asbestos Evaluation Specialist. You must present your card upon request at any project site while performing duties. Copies of cards are not acceptable as proof of certification.

This certification may be revoked by the Director of the Ohio Environmental Protection Agency (EPA) for violation of any of the requirements of 3745-22 or 3745-20 of the Ohio Administrative Code.

If you have any questions, please contact the Asbestos Program at 614-644-0226 or by email at asbestoslicensing@epa.ohio.gov.

Sincerely,

Brandon M. Schwendeman

Brandon Schwendeman
Manager, Business Operations Support Section
Ohio EPA - Division of Air Pollution Control



700 • P.O. Box 1049 • Columbus, OH 43216-1049
(614) 644-3020 • (614) 644-3184 (fax)

The InService Training Network

Asbestos Building Inspector and Management Planner Refresher Courses



Domanic Martin

has successfully completed the Asbestos Building Inspector and Management Planner Refresher Courses and passed by at least 70% the course examinations for accreditation under Section 206 of the Toxic Substance Control Act, Title II, and Indiana 326 IAC 18-2
Provided by: The InService Training Network, Inc., 705D Lakeview Plaza Blvd, Worthington, OH 43085 (614) 436-0980

Course Dates: May 7, 2025

Course Director:


Kurt Varga

Examination Date: May 7, 2025

Course Location: Worthington, Ohio

Expiration Date: May 7, 2026

Certificate Numbers: ITNIR7781 & ITNMPR7781

ITN

ITN

APPENDIX B

Asbestos Bulk Sample Location Diagram

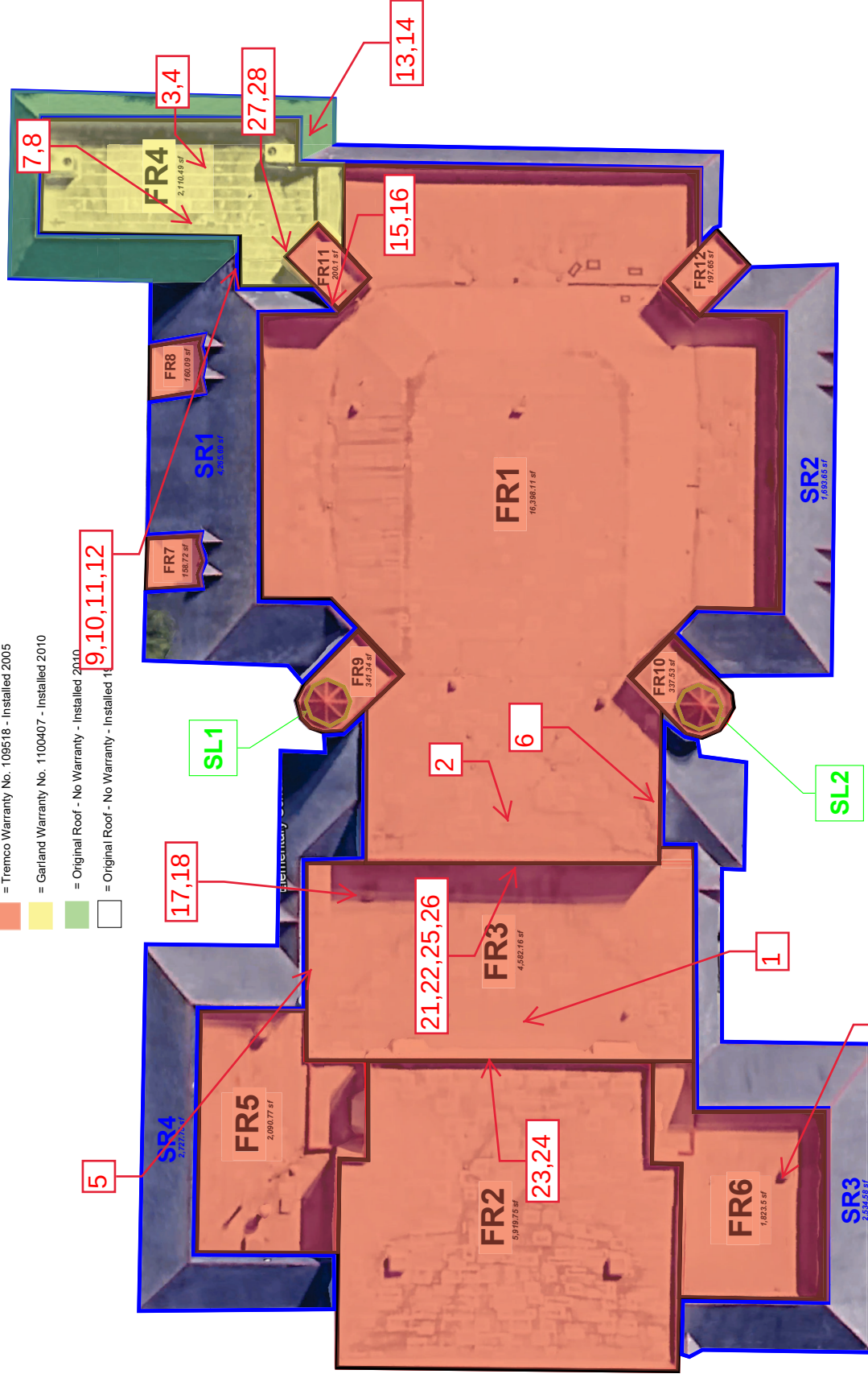
Asbestos Bulk Sample Location Diagram

Collected on: 5/8/25

Collected by: Domanic Martin

AHES: ES35856

-  = Tremco Warranty No. 109518 - Installed 2005
-  = Garland Warranty No. 1100407 - Installed 2010
-  = Original Roof - No Warranty - Installed 2010
-  = Original Roof - No Warranty - Installed 11



Daniel Wright Elementary
2835 West Case Road
Columbus, OH 43235
(614) 538-0464



APPENDIX C

Asbestos Bulk Sample Summary

BULK SAMPLE SUMMARY
Dublin City School District – Daniel Wright Elementary School
2335 West Case Road, Dublin, OH 43235
Roof Sampling Survey

Sample Number	Hom. Area #	Material Sampled	Sample Location	Percent Asbestos
250508 - 1	1a	Coating	FR3 – Field	NAD
	1b	Shingle		NAD
	1c	Felt I		NAD
	1d	Tar		NAD
	1e	Felt II		NAD
	1f	Foam		NAD
	1g	Insulation		NAD
250508 – 2	1a	Coating	FR1 – Field	NAD
	1b	Shingle		NAD
	1h	Felt III		NAD
	1d	Tar		NAD
	1e	Felt II		NAD
	1f	Foam		NAD
	1g	Insulation		NAD
250508 – 3	1c	Felt	FR4 – Field	NAD
	1d	Tar		NAD
	1f	Foam		NAD
	1i	Fiberboard		NAD
250508 – 4	1c	Felt	FR4 – Field	NAD
	1d	Tar		NAD
	1f	Foam		NAD
	1i	Fiberboard		NAD
250508 – 5	2a	Felt	FR3 - Flashing	NAD
	2b	Tar		NAD
	2c	Insulation		NAD

Bold text denotes an Asbestos Containing Material; as defined by EPA and OSHA.

Italics text denotes an Asbestos Containing Material; as defined by OSHA only.

Legend

Abbreviation: **Definition:**
NAD No Asbestos Detected
NA Not Analyzed

BULK SAMPLE SUMMARY
Dublin City School District – Daniel Wright Elementary School
2335 West Case Road, Dublin, OH 43235
Roof Sampling Survey

Sample Number	Hom. Area #	Material Sampled	Sample Location	Percent Asbestos
250508 – 6	2d	Coating	FR1 - Flashing	NAD
	2e	Shingle I		NAD
	2a	Felt		NAD
	2b	Tar		NAD
	2c	insulation		NAD
250508 – 7	2f	Shingle	FR4 - Flashing	NAD
	2b	Tar		NAD
	2a	Felt		NAD
	2g	Membrane		NAD
	2c	Insulation		NAD
250508 – 8	2f	Shingle	FR4 - Flashing	NAD
	2b	Tar		NAD
	2a	Felt		NAD
	2g	Membrane		NAD
	2c	Insulation		NAD
250508 – 9	3	Faux Slate	SR1	10% Chrysotile
250508 – 10	3	Faux Slate	SR1	NA
250508 – 11	4	Faux Slate Underlay	SR1	NAD
250508 – 12	4	Faux Slate Underlay	SR1	NAD
250508 – 13	5a	Shingle	FR4 Sloped Roof	NAD
	5b	Tar		NAD
	5c	Felt		NAD

Bold text denotes an Asbestos Containing Material; as defined by EPA and OSHA.

Italics text denotes an Asbestos Containing Material; as defined by OSHA only.

Legend

Abbreviation: **Definition:**
NAD No Asbestos Detected
NA Not Analyzed

BULK SAMPLE SUMMARY
Dublin City School District – Daniel Wright Elementary School
2335 West Case Road, Dublin, OH 43235
Roof Sampling Survey

Sample Number	Hom. Area #	Material Sampled	Sample Location	Percent Asbestos
250508 – 14	5a	Shingle	FR4 Sloped Roof	NAD
	5b	Tar		NAD
	5c	Felt		NAD
250508 – 15	6a	Coating	FR1	NAD
	6b	Foam		NAD
250508 – 16	6a	Coating	FR1	NAD
250508 – 17	7	Sealant I	FR3 - Electrical	NAD
250508 - 18	7	Sealant I	FR3 - Electrical	NAD
250508 – 19	8	Sealant II	FR6 - Vent Stack	NAD
250508 – 20	8	Sealant II	FR6 - Vent Stack	NAD
250508 – 21	9	Sealant III	FR3 – Counter Flashing	NAD
250508 – 22	9	Sealant III	FR3 – Counter Flashing	NAD
250508 – 23	10	Caulking	FR3 – Louver	NAD
250508 – 24	10	Caulking	FR3 – Louver	NAD
250508 – 25	11	Sealant IV	FR3 – Counter Flashing Under Windows	NAD
250508 – 26	11	Sealant IV	FR3 – Counter Flashing Under Windows	NAD
250508 – 27	12	Sealant V	FR4	NAD
250508 – 28	12	Sealant V	FR4	NAD

Bold text denotes an Asbestos Containing Material; as defined by EPA and OSHA.

Italics text denotes an Asbestos Containing Material; as defined by OSHA only.

Legend

Abbreviation: **Definition:**
NAD No Asbestos Detected
NA Not Analyzed

APPENDIX D

Inventory of Asbestos Containing Material

INVENTORY OF ASBESTOS CONTAINING MATERIALS
Dublin City School District – Daniel Wright Elementary School
2335 West Case Road, Dublin, OH 43235
Roof Sampling Survey

ACM	Location	Approximate Quantity	Condition	EPA NESHAP Classification & Comments
Transite	All Faux Slate Roofs	12,110 SF	Intact	Category II Non-Friable

APPENDIX E

Asbestos Laboratory Analysis Certificates

& Chain of Custody



The Identification Specialists

Analysis Report
prepared for
Lawhon & Associates, Inc.

Report Date: 5/16/2025

Project Name: Mays Dublin CSD Wright Roof

Project #: 25-0161

SanAir ID#: 25031482



NVLAP LAB CODE 600227-0

11709 Chesterdale Road, Cincinnati, Ohio 45246
888.895.1177 | 513.438.6066 | LabReports@SanAir.com | SanAir.com



SanAir ID Number

25031482

FINAL REPORT

5/16/2025 6:08:47 PM

Name: Lawhon & Associates, Inc.

Address: 1441 King Ave

Columbus, OH 43212

Phone: 614-481-8600 ext. 142

Project Number: 25-0161

P.O. Number:

Project Name: Mays Dublin CSD Wright Roof

Collected Date: 5/8/2025

Received Date: 5/15/2025 10:00:00 AM

Dear Domanic Martin,

We at SanAir would like to thank you for the work you recently submitted. The 28 sample(s) were received on Thursday, May 15, 2025 via UPS. The final report(s) is enclosed for the following sample(s): 250508-1, 250508-2, 250508-3, 250508-4, 250508-5, 250508-6, 250508-7, 250508-8, 250508-9, 250508-10, 250508-11, 250508-12, 250508-13, 250508-14, 250508-15, 250508-16, 250508-17, 250508-18, 250508-19, 250508-20, 250508-21, 250508-22, 250508-23, 250508-24, 250508-25, 250508-26, 250508-27, 250508-28.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

A handwritten signature in black ink that reads "Maureen Y. Haley". The signature is written in a cursive, flowing style.

Maureen Y. Haley
Asbestos Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:

- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:

- 28 samples in Good condition.



SanAir ID Number

25031482

FINAL REPORT

5/16/2025 6:08:47 PM

Name: Lawhon & Associates, Inc.**Address:** 1441 King Ave

Columbus, OH 43212

Phone: 614-481-8600 ext. 142**Project Number:** 25-0161**P.O. Number:****Project Name:** Mays Dublin CSD Wright Roof**Collected Date:** 5/8/2025**Received Date:** 5/15/2025 10:00:00 AM

Analyst: Pinkerton, Sid

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic	Components		Asbestos Fibers
	Appearance	% Fibrous	% Non-fibrous	
250508-1 / 25031482-001 Roof Material-Field, FR3, Coating	Silver Non-Fibrous Homogeneous		100% Other	None Detected
250508-1 / 25031482-001 Roof Material-Field, FR3, Shingle	Black Non-Fibrous Homogeneous	20% Glass	80% Other	None Detected
250508-1 / 25031482-001 Roof Material-Field, FR3, Felt	Black Fibrous Homogeneous	50% Cellulose	50% Other	None Detected
250508-1 / 25031482-001 Roof Material-Field, FR3, Tar	Black Non-Fibrous Homogeneous		100% Other	None Detected
250508-1 / 25031482-001 Roof Material-Field, FR3, Felt	Grey Fibrous Homogeneous	80% Cellulose	20% Other	None Detected
250508-1 / 25031482-001 Roof Material-Field, FR3, Foam	Yellow Non-Fibrous Homogeneous		100% Other	None Detected
250508-1 / 25031482-001 Roof Material-Field, FR3, Insulation	Brown Fibrous Homogeneous	100% Cellulose		None Detected
250508-2 / 25031482-002 Roof Material-Field, FR1, Coating	Silver Non-Fibrous Homogeneous		100% Other	None Detected
250508-2 / 25031482-002 Roof Material-Field, FR1, Shingle	Black Non-Fibrous Homogeneous	20% Glass	80% Other	None Detected
250508-2 / 25031482-002 Roof Material-Field, FR1, Felt	Black Non-Fibrous Homogeneous	30% Cellulose	70% Other	None Detected

Analyst:

Approved Signatory:

Analysis Date: 5/16/2025

Date: 5/16/2025



SanAir ID Number

25031482

FINAL REPORT

5/16/2025 6:08:47 PM

Name: Lawhon & Associates, Inc.**Address:** 1441 King Ave

Columbus, OH 43212

Phone: 614-481-8600 ext. 142**Project Number:** 25-0161**P.O. Number:****Project Name:** Mays Dublin CSD Wright Roof**Collected Date:** 5/8/2025**Received Date:** 5/15/2025 10:00:00 AM

Analyst: Pinkerton, Sid

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic	Components		Asbestos Fibers
	Appearance	% Fibrous	% Non-fibrous	
250508-2 / 25031482-002 Roof Material-Field, FR1, Tar	Black Non-Fibrous Homogeneous		100% Other	None Detected
250508-2 / 25031482-002 Roof Material-Field, FR1, Felt	Grey Fibrous Homogeneous	80% Cellulose	20% Other	None Detected
250508-2 / 25031482-002 Roof Material-Field, FR1, Foam	Yellow Non-Fibrous Homogeneous		100% Other	None Detected
250508-2 / 25031482-002 Roof Material-Field, FR1, Insulation	Brown Fibrous Homogeneous	100% Cellulose		None Detected
250508-3 / 25031482-003 Roof Material-Field, FR4, Felt	Black Fibrous Homogeneous	50% Cellulose	50% Other	None Detected
250508-3 / 25031482-003 Roof Material-Field, FR4, Tar	Black Non-Fibrous Homogeneous		100% Other	None Detected
250508-3 / 25031482-003 Roof Material-Field, FR4, Foam	Yellow Non-Fibrous Homogeneous		100% Other	None Detected
250508-3 / 25031482-003 Roof Material-Field, FR4, Fiberboard	White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
250508-4 / 25031482-004 Roof Material-Field, FR4, Felt	Black Fibrous Homogeneous	50% Cellulose	50% Other	None Detected
250508-4 / 25031482-004 Roof Material-Field, FR4, Tar	Black Non-Fibrous Homogeneous		100% Other	None Detected

Analyst:

Approved Signatory:

Analysis Date: 5/16/2025

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Analyst: Pinkerton, Sid

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic	Components		Asbestos Fibers
	Appearance	% Fibrous	% Non-fibrous	
250508-4 / 25031482-004 Roof Material-Field, FR4, Foam	Yellow Non-Fibrous Homogeneous		100% Other	None Detected
250508-4 / 25031482-004 Roof Material-Field, FR4, Fiberboard	White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
250508-5 / 25031482-005 Roof Material-Flashing, FR3, Felt	Black Fibrous Homogeneous	50% Cellulose	50% Other	None Detected
250508-5 / 25031482-005 Roof Material-Flashing, FR3, Tar	Black Non-Fibrous Homogeneous		100% Other	None Detected
250508-5 / 25031482-005 Roof Material-Flashing, FR3, Insulation	Brown Fibrous Homogeneous	100% Cellulose		None Detected
250508-6 / 25031482-006 Roof Material-Flashing, FR1, Coating	Silver Non-Fibrous Homogeneous		100% Other	None Detected
250508-6 / 25031482-006 Roof Material-Flashing, FR1, Shingle	Black Non-Fibrous Homogeneous	20% Glass	80% Other	None Detected
250508-6 / 25031482-006 Roof Material-Flashing, FR1, Felt	Black Fibrous Homogeneous	50% Cellulose	50% Other	None Detected
250508-6 / 25031482-006 Roof Material-Flashing, FR1, Tar	Black Non-Fibrous Homogeneous		100% Other	None Detected
250508-6 / 25031482-006 Roof Material-Flashing, FR1, Insulation	Brown Fibrous Homogeneous	100% Cellulose		None Detected

Analyst:

Approved Signatory:

Analysis Date: 5/16/2025

Date: 5/16/2025



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Analyst: Pinkerton, Sid

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic	Components		Asbestos Fibers
	Appearance	% Fibrous	% Non-fibrous	
250508-7 / 25031482-007 Roof Material-Flashing, FR4, Shingle	Black Non-Fibrous Homogeneous	10% Synthetic	90% Other	None Detected
250508-7 / 25031482-007 Roof Material-Flashing, FR4, Tar	Black Non-Fibrous Homogeneous		100% Other	None Detected
250508-7 / 25031482-007 Roof Material-Flashing, FR4, Felt	Black Fibrous Homogeneous	50% Cellulose	50% Other	None Detected
250508-7 / 25031482-007 Roof Material-Flashing, FR4, Membrane	Black Non-Fibrous Homogeneous		100% Other	None Detected
250508-7 / 25031482-007 Roof Material-Flashing, FR4, Insulation	Brown Fibrous Homogeneous	100% Cellulose		None Detected
250508-8 / 25031482-008 Roof Material-Flashing, FR4, Shingle	Black Non-Fibrous Homogeneous	10% Synthetic	90% Other	None Detected
250508-8 / 25031482-008 Roof Material-Flashing, FR4, Tar	Black Non-Fibrous Homogeneous		100% Other	None Detected
250508-8 / 25031482-008 Roof Material-Flashing, FR4, Felt	Black Fibrous Homogeneous	50% Cellulose	50% Other	None Detected
250508-8 / 25031482-008 Roof Material-Flashing, FR4, Membrane	Black Non-Fibrous Homogeneous		100% Other	None Detected
250508-8 / 25031482-008 Roof Material-Flashing, FR4, Insulation	Brown Fibrous Homogeneous	100% Cellulose		None Detected

Analyst:

Approved Signatory:

Analysis Date: 5/16/2025

Date: 5/16/2025



SanAir ID Number

25031482

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Address: 1441 King Ave

Columbus, OH 43212

Phone: 614-481-8600 ext. 142

Project Number: 25-0161

P.O. Number:

Project Name: Mays Dublin CSD Wright Roof

Collected Date: 5/8/2025

Received Date: 5/15/2025 10:00:00 AM

Analyst: Pinkerton, Sid

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic	Components		Asbestos Fibers
	Appearance	% Fibrous	% Non-fibrous	
250508-9 / 25031482-009 Faux Slate Roof, SR1	Grey Non-Fibrous Homogeneous		90% Other	10% Chrysotile
250508-10 / 25031482-010 Faux Slate Roof, SR1				Not Analyzed
250508-11 / 25031482-011 Faux Slate Roof Underlay, SR1	Black Fibrous Homogeneous	50% Cellulose	50% Other	None Detected
250508-12 / 25031482-012 Faux Slate Roof Underlay, SR1	Black Fibrous Homogeneous	50% Cellulose	50% Other	None Detected
250508-13 / 25031482-013 Shingle & Felt, FR4 Sloped Roof, Shingle	Black Non-Fibrous Homogeneous	10% Synthetic	90% Other	None Detected
250508-13 / 25031482-013 Shingle & Felt, FR4 Sloped Roof, Tar	Black Non-Fibrous Homogeneous		100% Other	None Detected
250508-13 / 25031482-013 Shingle & Felt, FR4 Sloped Roof, Felt	Black Non-Fibrous Homogeneous	30% Glass	70% Other	None Detected
250508-14 / 25031482-014 Shingle & Felt, FR4 Sloped Roof, Shingle	Black Non-Fibrous Homogeneous	10% Synthetic	90% Other	None Detected
250508-14 / 25031482-014 Shingle & Felt, FR4 Sloped Roof, Tar	Black Non-Fibrous Homogeneous		100% Other	None Detected
250508-14 / 25031482-014 Shingle & Felt, FR4 Sloped Roof, Felt	Black Non-Fibrous Homogeneous	30% Glass	70% Other	None Detected

Analyst:

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Analysis Date: 5/16/2025

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Analyst: Pinkerton, Sid

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic	Components		Asbestos Fibers
	Appearance	% Fibrous	% Non-fibrous	
250508-15 / 25031482-015 Wall Coating, FR1, Coating	Various Non-Fibrous Heterogeneous		100% Other	None Detected
250508-15 / 25031482-015 Wall Coating, FR1, Foam	White Non-Fibrous Homogeneous		100% Other	None Detected
250508-16 / 25031482-016 Wall Coating, FR1	Various Non-Fibrous Heterogeneous		100% Other	None Detected
250508-17 / 25031482-017 Sealant I, Electrical FR3	Grey Non-Fibrous Homogeneous		100% Other	None Detected
250508-18 / 25031482-018 Sealant I, Electrical FR3	Grey Non-Fibrous Homogeneous		100% Other	None Detected
250508-19 / 25031482-019 Sealant II, Vent Stack FR6	Beige Non-Fibrous Homogeneous		100% Other	None Detected
250508-20 / 25031482-020 Sealant II, Vent Stack FR6	Beige Non-Fibrous Homogeneous		100% Other	None Detected
250508-21 / 25031482-021 Sealant III, Counter Flash FR3	Beige Non-Fibrous Homogeneous		100% Other	None Detected
250508-22 / 25031482-022 Sealant III, Counter Flash FR3	Beige Non-Fibrous Homogeneous		100% Other	None Detected
250508-23 / 25031482-023 Caulking, Louver FR3	White Non-Fibrous Homogeneous		100% Other	None Detected

Analyst:

Approved Signatory:

Analysis Date: 5/16/2025

Date: 5/16/2025



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Project Number: 25-0161

P.O. Number:

Project Name: Mays Dublin CSD Wright Roof

Collected Date: 5/8/2025

Received Date: 5/15/2025 10:00:00 AM

Analyst: Pinkerton, Sid

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic	Components		Asbestos Fibers
	Appearance	% Fibrous	% Non-fibrous	
250508-24 / 25031482-024 Caulking, Louver FR3	White Non-Fibrous Homogeneous		100% Other	None Detected
250508-25 / 25031482-025 Sealant IV, Counter Flash Under Window FR3	Black Non-Fibrous Homogeneous		100% Other	None Detected
250508-26 / 25031482-026 Sealant IV, Counter Flash Under Window FR3	Black Non-Fibrous Homogeneous		100% Other	None Detected
250508-27 / 25031482-027 Sealant V, FR4	Tan Non-Fibrous Homogeneous		100% Other	None Detected
250508-28 / 25031482-028 Sealant V, FR4	Tan Non-Fibrous Homogeneous		100% Other	None Detected

Analyst:

Approved Signatory:

Analysis Date: 5/16/2025

Date: 5/16/2025

Disclaimer and Additional Information

This report is the sole property of the client named on the SanAir Technologies Laboratory, Inc. (SanAir) chain-of-custody (COC). Results in the report are confidential information intended only for the use by the client named on the COC. Neither results nor reports will be discussed with or released to any third party without our client's written permission to maintain client confidentiality. The final report cannot be reproduced, except in full, without written authorization from SanAir to assure that parts of the report are not taken out of context. This report and any information contained within shall not be edited, altered, or modified in any way by any persons or agencies receiving, viewing, distributing, or otherwise possessing a copy of this final report. The laboratory reserves the right to perform amendments to any finalized report, of which shall supersede and make obsolete any previous editions. Such changes, modifications, additions, or deletions shall be effective immediately upon notice thereof, which may be given by means including, but not limited to, posting on the SanAir client portal website, electronic or conventional mail, or by any other means. The information provided in this report applies only to the samples submitted in the condition they were received at the laboratory and is relevant only for the date, time, and location of sampling. Samples were received in good condition unless otherwise noted on the report. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client on the COC, which includes the project name, project number, P.O. number, sample collection dates, special instructions, samples collected by, sample numbers, sample identifications/location, sample type, selected analysis type, and total area or volume that may affect the validity of the results. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. SanAir assumes no responsibility or liability for the manner in which results are used or interpreted. This report does not constitute and shall not be used to claim product, process, system, or person certification, approval, or endorsement by NVLAP, NIST, NELAC, AIHA LAP, LLC or any other agency of the U.S. government; all or some tests contained in this report may not be accredited by every local, state, and federal regulatory agency. Refer to the SanAir website at www.sanair.com for copies of current certificates and scopes of various accreditations, certifications, and licenses or contact the laboratory at iaq@sanair.com for inquiries regarding the status or scope of an accreditation or certification.

Fibers smaller than 5-microns cannot be seen with this method due to scope limitations. Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing. Samples are held for a period of 60 days.

Asbestos Accreditations, Certifications, and Licenses

National Voluntary Laboratory Accreditation Program (NVLAP) Lab Code 600227-0

State of Connecticut Department of Public Health Registration Number: PH-0817

State of Rhode Island Department of Health, Certification Number: PLM00144, TEM00144

State of West Virginia Bureau for Public Health, Analytical Laboratory Number: LT000637

Texas Department of State Health Services License Number: 300510

1441 King Avenue
Columbus, OH 43212
Phone: (614) 481-8600
Fax: (614) 481-8610

Sent To: San Air No. 5840

VIA: ups

Date: 5-8-25

Turn around:

5 day

ASBESTOS BULK SAMPLE CHAIN-OF-CUSTODY RECORD

Project Name:		Project No.:	Project Contact:	Sampler (print):	Signature
Mays Dublin CSD Wright Roof		25-0161	Domenic Martin	Domenic Martin	<u>[Signature]</u>
Sample I.D. No.	Homog. Area No.	Sample / Homogeneous Area Description		Sample Location	Remarks
250508-1	1	Roof Material - Field		FR3	
- 2	1			FR1	
- 3	1			FR4	
- 4	1			I	
- 5	2	Roof Material - Flashing		FR3	
- 6	2			FR1	
- 7	2			FR4	
- 8	2			I	
- 9	3	Faux Slate Roof		SK1	
- 10	3				
- 11	4	Faux slate roof underlay		I	
- 12	4				
- 13	5	Shingle & Felt		FR4 Sloped Roof	
- 14	5			I	
- 15	6	Wall Coating		FR1	
- 16	6			I	
- 17	7	Sealant F		Electrical FR3	
- 18	7			I	

SAMPLE ANALYSIS BY EPA METHOD 600/R-93/116 UNLESS OTHERWISE NOTED.
POINT COUNT FRIABLES AND NOB'S 3% OR LESS ASBESTOS.

☒ Stop 1st Positive ☐ Analyze All Samples

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time	Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
<u>[Signature]</u>	5-14-25 16:00	<u>RMB</u>	5-15-25 10:00				

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 600227-0

SanAir Technologies Laboratory, Inc.
Cincinnati, OH

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

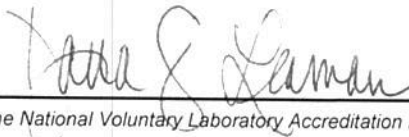
Asbestos Fiber Analysis

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué on ISO/IEC 17025).*

2025-01-01 through 2025-12-31

Effective Dates




For the National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

SanAir Technologies Laboratory, Inc.

11709 Chesterdale Road

Cincinnati, OH 45246

Maureen Haley

Phone: 513-438-6006 X301

Email: mhaley@sanair.com

www.sanair.com

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 600227-0

Bulk Asbestos Analysis

Code

Description

18/A01

EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples

18/A03

EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

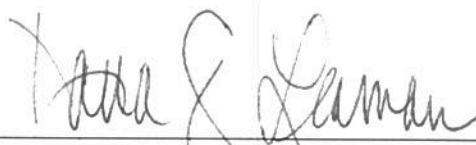
Airborne Asbestos Analysis

Code

Description

18/A02

U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.



For the National Voluntary Laboratory Accreditation Program

00 43 25

Note. Certain brands of material or apparatus are specified. Each bid will be based on these brands, which may be referred to in the Contract Documents as Standards. The use of another brand (referred to as a substitution or proposed equal in the Contract Documents) may be requested as provided in the Instructions to Bidders. Substitutions, however, unless approved and issued in an Addendum, will not be considered in determining the lowest responsible bid.

The detailed procedures for submitting substitutions are set forth in the Instructions to Bidders.

[illegible]

END OF SECTION 00 43 25 – SUBSTITUTION REQUEST FORM

00 43 36
LIST OF SUBCONTRACTORS

Project:

2027 Roof Replacement at Wright ES
2335 W. Case Road
Dublin, Ohio 43235

Date:

(Date)

To Design Professional:

Mays Consulting & Evaluation Services, Inc.
PO Box 1020
Delaware, Ohio 43015

**Design Professional's Project
Number:**

DOH43-013-03

From Contractor:

(Name and Address)

Contractor's Project Number:

(Number)

*(List Subcontractors and others proposed to be employed on the above Project as required by the
bidding documents)*

Work/Firm Name	Address/Phone	Superintendent

END OF SECTION 00 43 36 – LIST OF SUBCONTRACTORS

CONTRACTOR QUALIFICATIONS STATEMENT**[to be completed and provided to Design Professional upon request after the bid opening]**

SUBMITTED TO: Dublin City Schools

SUBMITTED BY: _____

Name: _____

Address: _____

Telephone: _____

Email: _____

Principal Office: _____

Indicate the form of organization: ☐ Corporation
 ☐ Partnership
 ☐ Individual
 ☐ Joint Venture
 ☐ Other

NAME OF PROJECT: _____

Complete the following information. Attach additional sheets as needed to provide the requested information.

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: _____

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 Lawsuits (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? _____

3.2.2 Within the last 5 years has your organization or any of its officers initiated any Claims, had any Claims initiated against it or them, or been involved in or is currently involved in any mediation or arbitration proceedings or lawsuits suits related to any construction project, or has any judgments or awards outstanding against it or them?

_____ If the answer is yes, please attach the details for each Claim, including the names and telephone numbers of the persons who are parties, the amount of the Claim, the type of Claim and basis for the Claim, and the outcome.

Note: As used in this document "Claim" means a Claim initiated under the Contract Documents for a project.

3.3 Within the last 5 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 for each instance, including the names and telephone numbers of the persons who are parties to the contract, and the reason(s) the contract was not completed.

3.4 On a separate sheet, list construction projects your organization has in progress with an original Contract Sum of more than \$100,000.00, giving the name of project, owner and its telephone number, design professional and its telephone number, contract amount, percent complete and scheduled completion date.

3.4.1 State total amount of work in progress and under contract: \$_____

3.5 Provide the following information for each contract your organization has had during the last 5 years, including current contracts, where the Contract Sum is 50% or more of the bid amount for this Project, including add alternates. If there are more than 10 of these contracts only provide information on the most recent 10 contracts, including current contracts.

Project And Work	Contract Sum	Owner's Representative & Telephone Number	Engineer's Or Architect's Representative Name & Telephone Number

- 3.5.1 Provide the following information for each project your organization has had during the last 5 years, which your organization believes is of comparable or greater size and complexity than the Owner's project. If there are more than 5 of these projects, only provide information on the most recent 5 projects, including current projects.

Project And Work	Contract Sum	Owner's Representative & Telephone Number	Engineer's Or Architect's Representative Name & Telephone Number

- 3.5.2 State average annual amount of construction work your organization has performed during the last 5 years. \$ _____

- 3.5.3 If any of the following members of your organization's management--president, chairman of the board, or any director--operates or has operated another construction company during the last 5 years, identify the member of management and the name of the construction company.

- 3.5.4 If your organization is operating under a trade name registration with the Secretary of State for the State of Ohio, identify the entity for which the trade name is registered. If none, state "none."

- 3.5.5. If your organization is a division or wholly-owned subsidiary of another entity or has another relationship with another entity, identify the entity of which it is a division or wholly-owned subsidiary or with which it has another relationship and also identify the nature of the relationship. If none, state "not applicable."

- 3.6 On a separate sheet, list the construction education, training and construction experience for each person who will fill a management role on the Project, including without limitation the Project Executive, Project Engineer, Project Manager, and Project Superintendent. For each person listed, include with the other information the last three projects on which the person worked and the name and telephone number of the Design Professional and the Owner.

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 surety 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); and
- 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 prepared:

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?

Certification. The undersigned certifies for the reliance of the Owner that after diligent investigation, to the best of the undersigned's belief, the information provided with this Contractor Qualifications Statement is true, accurate and not misleading.

SIGNATURE

Dated at this ____ day of _____, 20__.

Name of Organization: _____

By: _____[PRINT NAME]

Signature: _____

Title: _____

STATE OF _____,

County of _____, ss:

_____, 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 _____ 20__.

Notary Public

My Commission Expires: _____

SEAL

00 62 11
SUBMITTAL TRANSMITTAL FORM

PART 1 – GENERAL**1.01 GENERAL REQUIREMENTS**

- A. All submittals are to be submitted electronically utilizing the following Submittal Transmittal Form. Refer to Section 01 33 00 Submittals for submittal requirements.

1.02 SUBMITTAL COVER PAGE INSTRUCTIONS

The information below shall be inserted into the Submittal Transmittal Form for each submittal. The sample Submittal Transmittal Form has been annotated to indicate where the following information is to be inserted.

- A. Project: Fill in project information.
- B. Contractor: Fill in contractor information.
- C. Description: Fill in a description of the item being submitted.
- D. Submittal: Select the type of submittal from the drop-down list.
- E. Spec. Section: Fill in specification section this submittal applies to. Reference submittal checklist first column.
- F. Submittal Item #: Select a number from the drop-down list that corresponds with the number, second column, on the submittal checklist.
- G. Revision #: Select a number from the drop-down list. The first submission will be Revision # 00. If a submittal is reviewed and returned for revisions, the next submission will be # 01, etc.
- H. Contractor Comments: This area is for additional information that is relevant to the submittal.
- I. Contractor Approval Stamp: The contractor stamp should go in this location. Stamp should indicate that the contractor has reviewed the submittal. The stamp should indicate if the submittal meets the specified requirements.
- J. Date Forwarded: Fill in the date this submittal is being delivered to Mays.
- K. Items to be filled-in by Design Professional.

1.03 FILE FORMAT AND NAMES

- A. Combine cover page with all relevant documents in a PDF binder. Do not create a PDF Portfolio.
- B. When saving submittals the file names shall be as follows: Submittal number and then a brief description

Example: **002113-08-00_List of Subcontractors**

002113 Specification Section

08 Submittal Item #

00

Revision #

- C. PDF binders shall not have any document restrictions applied that would limit the Design Professional from reviewing and/or annotating the documents within the binders.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION 00 62 11 – SUBMITTAL TRANSMITTAL FORM



Mays Consulting & Evaluation Services, Inc.

A Professional Consulting & Evaluation Organization

Project:

Mays Consulting Office Roof
201 Pennsylvania Avenue
Delaware, Ohio 43015

Contractor:

ABC Roofing
102 Spring Street
Delaware, Ohio 43015

SUBMITTAL #: 072216 - 01 - 00

Description: Hunter Panels H-Shield CG Roof Insulation

Spec. Section: 072216

Submittal: Product Data

Submittal Item #: 01

Revision #: 00

Contractor Comments:

This product will be used on Roof Areas A, L, and O.

Contractor Approval Stamp

By submitting these documents, the contractor indicates that he approves and has verified the submittal for compliance with the contract documents.

Mays Review Summary

- ☐ Approved
- ☐ Approved As Noted
- ☐ Additional Items Required
- ☐ Rejected
- ☐ Returned for Revisions - Resubmit
- ☐ Submit New Documents

By:

Date Forwarded
1/8/2014

Mays Comments:

Submittal # 072216 - 01 - 00

Complete: ☐ Yes ☐ No

00 62 11
Submittal Transmittal Template

Submittal Cover Page Instructions

- A. Fill in project information.
- B. Fill in contractor information.
- C. Fill in a description of the item being submitted.
- D. Select the type of submittal from the drop-down list.
- E. Fill in specification section this submittal applies to. Reference submittal checklist first column.
- F. Select a number from the drop-down list that corresponds with the number, second column, on the submittal checklist.
- G. Select a number from the drop-down list. The first submission will be Revision # 00. If a submittal is reviewed and returned for revisions, the next submission will be # 01, etc.
- H. This area is for additional information that is relevant to the submittal. If a submittal isn't in conformance with the contract documents it should be noted here.
- I. The contractor stamp should go in this location. Stamp indicates that the primary contractor has reviewed the submittal and it is in conformance with contract documents unless it is noted in the contractor comments area. Stamp shall be digitally applied and include reviewer, time and date stamp was applied.
- J. Fill in the date this submittal is being delivered to Mays.
- K. To be filled-in by Mays.

File Format & Names

- 1. Combine cover page with all relevant documents in a PDF binder. Do not create a PDF Portfolio.
- 2. When saving submittals the file names shall be as follows:

Submittal number and then a brief description

Example: **002113-08-00 List of Subcontractors**

002113 Specification Section

08 Submittal Item #

00 Revision #

- 3. PDF binders shall not have any document restrictions applied that would limit the consultant from reviewing and/or annotating the documents within the binders.

REQUEST FOR INTERPRETATION

FROM:

RFI NUMBER: _____

TO:

Project Name: Dublin City Schools – 2027 Roof Replacement at Wright Elementary SchoolProject Number: DOH43-013-03

In reference to the above contract, we are hereby requesting a clarification, determination and/or information concerning the following:

Specification Section No(s): _____

Drawing No(s): Drawings. _____ And _____

Request:

Recommendations:

Impact:

Attachment(s):

Requested by:

Date of Request: _____

Title:

Date Reply Required: _____

In reply to your request, be advised:

Reply by: _____

Date of Reply: _____

Title: _____

Date reply returned to originator: _____

Note: This reply is not an authorization to proceed with work involving additional cost, time, or both. If any reply requires a change to the Contract Documents, a Change Order, Construction Change Directive or Minor Change in the work must be executed in accordance with the Contract Documents.

END OF SECTION 00 63 13 – REQUEST FOR INTERPRETATION

Change Order Request Form Instructions

Introduction

Generally, the Design Professional will issue a Construction Change Directive, Bulletin, or otherwise request a proposal from the Contractor. The Contractor shall submit this completed Change Order Request Form and supporting documentation so that the Design Professional can evaluate the Change Order Request/Proposal.

This Change Order procedure is outlined in the General Conditions of the Contract for Construction. A Change Order form will be prepared by the Design Professional and circulated to the Owner and the Contractor for review and signature. The Change Order is not effective until it has been signed by all parties.

Legend

Dark Red	Instructions Tab - Contains instructions on completing the Change Order Cost Breakdown.
Green	Contractor Tabs - These are tabs where the Contractor is required to insert information.
Blue	Subcontractor 1 Tabs - These are tabs where information from Subcontractor 1 is required to insert information.
Light Blue	Subcontractor 2 Tabs - These are tabs where information from Subcontractor 1 is required to insert information.
Yellow	Normal entry information (unlocked fields)
Red	Automated Cell (locked field)

Step by Step Instructions

Change Order Summary Form - Contractor

1. Fill in all project information in yellow shaded boxes.
2. A: Labor Unit Prices
 - a. Fill in "Labor Type" column for each type of labor required for the work. These "Labor Types" must match the labor categories listed on the Bid Form.
 - b. Fill in "Quantity of Hours" column for each "Labor Type" that is estimated necessary to complete the work.
 - c. Fill in "Labor Unit Price" column for each "Labor Type". This unit price must match the labor categories listed on the Bid Form. If a different "Labor Type" is required to complete the work, insert the required "Labor Type" and "Labor Unit Price" and this will also be reviewed during the review process.
 - d. The "Labor Subtotals" will automatically calculate.
3. B: Equipment - This total will be automatically populated from the "B. Equipment" tab.
 - a. B. Equipment Tab - Fill in each piece of equipment that is required to complete the work in the "Equipment" column.
 - b. B. Equipment Tab - Fill in the cost of each piece of equipment in the "Total Cost"

00 63 57
CHANGE ORDER REQUEST FORM

Construction Documents
Issue Date: 10-14-2026

column.

- c. B. Equipment Tab - Insert a copy of quotes (or other documentation acceptable to the Design Professional for the reasonable equipment cost) for each piece of equipment required to complete the work.
4. C. Materials This total will be automatically populated from the C. Materials" tab.
 - a. C. Materials Tab - Fill in each type of material that is required to complete the work in the "Material Description" column.
 - b. C. Materials Tab - Fill in the unit cost for each type of materials in the "Unit Cost" column.
 - c. C. Materials Tab - The "Total Cost" for each material will be automatically calculated in the "Total Cost" column.
5. Subcontractor 1 - This will be automatically populated from the "Subcontractor 1 Summary Form"
6. Subcontractor 2 - This will be automatically populated from the "Subcontractor 1 Summary Form"
7. F. Labor, Material, and Subcontract Subtotal - This will be automatically populated.
8. G. Overhead & Profit - This will be automatically populated. The maximum allowable overhead and profit is limited to 15% in the General Conditions.
9. H. Bonds - Enter the additional cost for the bonds for the work included in this proposal request. Include documentation of this cost in "Contractor - Additional Doc" tab.
10. I. Insurance - Enter the additional cost, if any, for the specified insurance for the work included in this proposal request. Include documentation of this cost in "Contractor - Additional Doc" tab.
11. J. Permits - Enter the additional cost, if any, for permits required for the work included in this proposal request. Include documentation of this cost in "Contractor Additional Doc" tab.
12. Subcontractor 1 and 2 Forms - The subcontractor shall complete (or provide information to the Contractor for completion) the forms utilizing the procedure outlined above.

Change Order Request Form

Change Order Request# 1

Project Information:

Project: [Project Name]

Date: [Date]

Contractor: [Contractor]

Original Contract Sum: [Contract Sum]

Design Professional: Mays Consulting & Evaluation Services, Inc.

Owner: [Client]

Original Contract Date: [Contract Date]

Project No.: AAA##-###

DESCRIPTION: [Description]

Cost Breakdown:

A. LABOR UNIT PRICES (including payroll taxes, fringe benefits, workers' compensation insurance, overhead, and profit):
Unit Prices from Bid Form or Subsequently Agreed Upon

Labor Type	Quantity of Hours	Labor Unit Price	Labor Subtotals
	0 hours x	\$ - per hour =	\$ -
	0 hours x	\$ - per hour =	\$ -
	0 hours x	\$ - per hour =	\$ -
	0 hours x	\$ - per hour =	\$ -
	0 hours x	\$ - per hour =	\$ -

A. LABOR UNIT PRICES:

Total A: \$ -

B. EQUIPMENT (attach quotes/invoices):

Total B: \$ -

C. MATERIALS (attach supporting documentation):

Total C: \$ -

D. SUBCONTRACTOR 1 (subcontractor break down to be completed):

Total D: \$ -

E. SUBCONTRACTOR 2 (subcontractor break down to be completed):

Total E: \$ -

F. EQUIPMENT, MATERIAL, AND SUBCONTRACT SUBTOTAL (B+C+D+E)

Total F: \$ -

G. OVERHEAD & PROFIT (F x 15%): Overhead and Profit Limit: 15%

Total G: \$ -

H. BONDS (attach supporting documentation):

Total H: \$ -

I. INSURANCE (attach supporting documentation):

Total I: \$ -

J. PERMITS (attach supporting documentation):

Total J: \$ -

GRAND TOTAL (A+F+G+H+I+J): \$ -

Contractor - Equipment Costs

Project: [Project Name]
Project No.: AAA##-###

<u>Equipment</u>	<u>Total Cost</u>
	\$ -
	\$ -
	\$ -
	\$ -
	\$ -
	\$ -
	\$ -

Grand Total of Equipment = \$ -

**Attach or Insert screenshot of the quote

Sample Rental Equipment Quote

Sample

Contractor - Materials

Project: [Project Name]
Project No.: AAA##-###

Material Description	Quantity	Unit Cost	Total Cost
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -

Grand Total Materials = \$ -

*Attach Supporting Documentation or Insert Screenshot

Sample Rental Equipment Quote

Sample

Contractor - Additional Documentation

*Attach Supporting Documentation or Insert Screenshot

Sample Rental Equipment Quote

Sample

Change Order Request Form

Change Order Request# 1

Project Information:

Project: [Project Name]	Date: [Date]
Subcontractor 1: [Subcontractor 1]	Original Contract Sum: [Contract Sum]
Design Professional: Mays Consulting & Evaluation Services, Inc.	
Owner: [Client]	Original Contract Date: [Contract Date]
Project No.: AAA##-###	
DESCRIPTION: [Description]	

Cost Breakdown:

A. LABOR UNIT PRICES (including payroll taxes, fringe benefits, workers' compensation insurance, overhead, and profit):
Unit Prices from Bid Form or Subsequently Agreed Upon

Labor Type	Quantity of Hours		Labor Unit Price		Labor Subtotals
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -

A. LABOR UNIT PRICES:	Total A:	\$ -
B. EQUIPMENT (attach quotes/invoices):	Total B:	\$ -
C. MATERIALS (attach supporting documentation):	Total C:	\$ -
D. SUB - SUBCONTRACTOR 1A (To be approved by Design Professional):	Total D:	\$ -
E. SUB-SUBCONTRACTOR 1B (To be approved by Design Professional):	Total E:	\$ -
F. EQUIPMENT, MATERIAL, AND SUBCONTRACT SUBTOTAL (B+C+D+E)	Total F:	\$ -
G. OVERHEAD & PROFIT (F x 15%): Overhead and Profit Limit: 15%	Total G:	\$ -
H. BONDS (attach supporting documentation):	Total H:	\$ -
I. INSURANCE (attach supporting documentation):	Total I:	\$ -
J. PERMITS (attach supporting documentation):	Total J:	\$ -
GRAND TOTAL (A+F+G+H+I+J):		\$ -

Subcontractor 1 - Equipment Costs

Project: [Project Name]
Project No.: AAA##-###

<u>Equipment</u>	<u>Total Cost</u>
	\$ -
	\$ -
	\$ -
	\$ -
	\$ -
	\$ -
	\$ -

Grand Total of Equipment = \$ -

**Attach or Insert screenshot of the quote

Sample Rental Equipment Quote

Sample

Subcontractor 1 - Materials

Project: [Project Name]
Project No.: AAA##-###

Material Description	Quantity	Unit Cost	Total Cost
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -

Grand Total Materials = \$ -

*Attach Supporting Documentation or Insert Screenshot

Sample Rental Equipment Quote

Sample

Subcontractor 1 - Additional Documentation

*Attach Supporting Documentation or Insert Screenshot

Sample Rental Equipment Quote

Sample

Change Order Request Form

Change Order Request# 1

Project Information:

Project: [Project Name] Subcontractor 2: [Subcontractor 2] Design Professional: Mays Consulting & Evaluation Services, Inc. Owner: [Client] Project No.: AAA##-###	Date: [Date] Original Contract Sum: [Contract Sum] Original Contract Date: [Contract Date]
DESCRIPTION: [Description]	

Cost Breakdown:

A. LABOR UNIT PRICES (including payroll taxes, fringe benefits, workers' compensation insurance, overhead, and profit):
Unit Prices from Bid Form or Subsequently Agreed Upon

Labor Type	Quantity of Hours		Labor Unit Price		Labor Subtotals
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -

A. LABOR UNIT PRICES:	Total A:	\$ -
B. EQUIPMENT (attach quotes/invoices):	Total B:	\$ -
C. MATERIALS (attach supporting documentation):	Total C:	\$ -
D. SUB - SUBCONTRACTOR 2A (To be approved by Design Professional):	Total D:	\$ -
E. SUB-SUBCONTRACTOR 2B (To be approved by Design Professional):	Total E:	\$ -
F. EQUIPMENT, MATERIAL, AND SUBCONTRACT SUBTOTAL (B+C+D+E)	Total F:	\$ -
G. OVERHEAD & PROFIT (F x 15%): Overhead and Profit Limit: 15%	Total G:	\$ -
H. BONDS (attach supporting documentation):	Total H:	\$ -
I. INSURANCE (attach supporting documentation):	Total I:	\$ -
J. PERMITS (attach supporting documentation):	Total J:	\$ -
GRAND TOTAL (A+F+G+H+I+J):		\$ -

Subcontractor 2 - Equipment Costs

Project: [Project Name]
Project No.: AAA##-###

<u>Equipment</u>	<u>Total Cost</u>	
	\$ -	
	\$ -	
	\$ -	
	\$ -	
	\$ -	
	\$ -	
	\$ -	

Grand Total of Equipment = \$ -

**Attach or Insert screenshot of the quote

Sample Rental Equipment Quote

Sample

Subcontractor 2 - Materials

Project: [Project Name]

Project No.: AAA##-###

<u>Material Description</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Total Cost</u>
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -

Grand Total Materials = \$ -

*Attach Supporting Documentation or Insert Screenshot

Sample Rental Equipment Quote

Sample

Subcontractor 2 - Additional Documentation

*Attach Supporting Documentation or Insert Screenshot

Sample Rental Equipment Quote

Sample

Change Order Request Form Instructions

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Legend

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Green	Contractor Tabs - These are tabs where the Contractor is required to insert information.
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Light Blue	Subcontractor 2 Tabs - These are tabs where information from Subcontractor 1 is required to insert information.
Yellow	Normal entry information (unlocked fields)
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 - c. Fill in "Labor Unit Price" column for each "Labor Type". This unit price must match the labor categories listed on the Bid Form. If a different "Labor Type" is required to complete the work, insert the required "Labor Type" and "Labor Unit Price" and this will also be reviewed during the review process.
 - d. The "Labor Subtotals" will automatically calculate.
3. B: Equipment - This total will be automatically populated from the "B. Equipment" tab.
 - a. B. Equipment Tab - Fill in each piece of equipment that is required to complete the work in the "Equipment" column.
 - b. B. Equipment Tab - Fill in the cost of each piece of equipment in the "Total Cost"

00 63 57
CHANGE ORDER REQUEST FORM

Design Development
Issue Date: 10-02-2026

column.

- c. B. Equipment Tab - Insert a copy of quotes (or other documentation acceptable to the Design Professional for the reasonable equipment cost) for each piece of equipment required to complete the work.
4. C. Materials This total will be automatically populated from the C. Materials" tab.
 - a. C. Materials Tab - Fill in each type of material that is required to complete the work in the "Material Description" column.
 - b. C. Materials Tab - Fill in the unit cost for each type of materials in the "Unit Cost" column.
 - c. C. Materials Tab - The "Total Cost" for each material will be automatically calculated in the "Total Cost" column.
5. Subcontractor 1 - This will be automatically populated from the "Subcontractor 1 Summary Form"
6. Subcontractor 2 - This will be automatically populated from the "Subcontractor 1 Summary Form"
7. F. Labor, Material, and Subcontract Subtotal - This will be automatically populated.
8. G. Overhead & Profit - This will be automatically populated. The maximum allowable overhead and profit is limited to 15% in the General Conditions.
9. H. Bonds - Enter the additional cost for the bonds for the work included in this proposal request. Include documentation of this cost in "Contractor - Additional Doc" tab.
10. I. Insurance - Enter the additional cost, if any, for the specified insurance for the work included in this proposal request. Include documentation of this cost in "Contractor - Additional Doc" tab.
11. J. Permits - Enter the additional cost, if any, for permits required for the work included in this proposal request. Include documentation of this cost in "Contractor Additional Doc" tab.
12. Subcontractor 1 and 2 Forms - The subcontractor shall complete (or provide information to the Contractor for completion) the forms utilizing the procedure outlined above.

Change Order Request Form

Change Order Request# 1

Project Information:

Project: [Project Name] Contractor: [Contractor] Design Professional: Mays Consulting & Evaluation Services, Inc. Owner: [Client] Project No.: AAA##-###	Date: [Date] Original Contract Sum: [Contract Sum] Original Contract Date: [Contract Date]
DESCRIPTION: [Description]	

Cost Breakdown:

A. LABOR UNIT PRICES (including payroll taxes, fringe benefits, workers' compensation insurance, overhead, and profit):
Unit Prices from Bid Form or Subsequently Agreed Upon

Labor Type	Quantity of Hours		Labor Unit Price		Labor Subtotals
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -

A. LABOR UNIT PRICES:	Total A:	\$ -
B. EQUIPMENT (attach quotes/invoices):	Total B:	\$ -
C. MATERIALS (attach supporting documentation):	Total C:	\$ -
D. SUBCONTRACTOR 1 (subcontractor break down to be completed):	Total D:	\$ -
E. SUBCONTRACTOR 2 (subcontractor break down to be completed):	Total E:	\$ -
F. EQUIPMENT, MATERIAL, AND SUBCONTRACT SUBTOTAL (B+C+D+E)	Total F:	\$ -
G. OVERHEAD & PROFIT (F x 15%): Overhead and Profit Limit: 15%	Total G:	\$ -
H. BONDS (attach supporting documentation):	Total H:	\$ -
I. INSURANCE (attach supporting documentation):	Total I:	\$ -
J. PERMITS (attach supporting documentation):	Total J:	\$ -
GRAND TOTAL (A+F+G+H+I+J):		\$ -

Contractor - Equipment Costs

Project: [Project Name]
Project No.: AAA##-###

Equipment	Total Cost
	\$ -
	\$ -
	\$ -
	\$ -
	\$ -
	\$ -
	\$ -

Grand Total of Equipment = \$ -

**Attach or Insert screenshot of the quote

Sample Rental Equipment Quote

Sample

Contractor - Materials

Project: [Project Name]
Project No.: AAA##-###

Material Description	Quantity	Unit Cost	Total Cost
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -

Grand Total Materials = \$ -

*Attach Supporting Documentation or Insert Screenshot

Sample Rental Equipment Quote

Sample

Contractor - Additional Documentation

*Attach Supporting Documentation or Insert Screenshot

Sample Rental Equipment Quote

Sample

Change Order Request Form

Change Order Request#		1
Project Information:		
Project: [Project Name]	Date: [Date]	
Subcontractor 1: [Subcontractor 1]	Original Contract Sum: [Contract Sum]	
Design Professional: Mays Consulting & Evaluation Services, Inc.		
Owner: [Client]	Original Contract Date: [Contract Date]	
Project No.: AAA##-###		
DESCRIPTION: [Description]		

Cost Breakdown:

A. LABOR UNIT PRICES (including payroll taxes, fringe benefits, workers' compensation insurance, overhead, and profit):
Unit Prices from Bid Form or Subsequently Agreed Upon

Labor Type	Quantity of Hours		Labor Unit Price		Labor Subtotals
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -

A. LABOR UNIT PRICES:	Total A:	\$ -
B. EQUIPMENT (attach quotes/invoices):	Total B:	\$ -
C. MATERIALS (attach supporting documentation):	Total C:	\$ -
D. SUB - SUBCONTRACTOR 1A (To be approved by Design Professional):	Total D:	\$ -
E. SUB-SUBCONTRACTOR 1B (To be approved by Design Professional):	Total E:	\$ -
F. EQUIPMENT, MATERIAL, AND SUBCONTRACT SUBTOTAL (B+C+D+E)	Total F:	\$ -
G. OVERHEAD & PROFIT (F x 15%): Overhead and Profit Limit: 15%	Total G:	\$ -
H. BONDS (attach supporting documentation):	Total H:	\$ -
I. INSURANCE (attach supporting documentation):	Total I:	\$ -
J. PERMITS (attach supporting documentation):	Total J:	\$ -
GRAND TOTAL (A+F+G+H+I+J):		\$ -

Subcontractor 1 - Equipment Costs

Project: [Project Name]
Project No.: AAA##-###

<u>Equipment</u>	<u>Total Cost</u>
	\$ -
	\$ -
	\$ -
	\$ -
	\$ -
	\$ -
	\$ -

Grand Total of Equipment = \$ -

**Attach or Insert screenshot of the quote

Sample Rental Equipment Quote

Sample

Subcontractor 1 - Materials

Project: [Project Name]
Project No.: AAA##-###

Material Description	Quantity	Unit Cost	Total Cost
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -

Grand Total Materials = \$ -

*Attach Supporting Documentation or Insert Screenshot

Sample Rental Equipment Quote

Sample

Subcontractor 1 - Additional Documentation

*Attach Supporting Documentation or Insert Screenshot

Sample Rental Equipment Quote

Sample

Change Order Request Form

Change Order Request# 1

Project Information:

Project: [Project Name]	Date: [Date]
Subcontractor 2: [Subcontractor 2]	Original Contract Sum: [Contract Sum]
Design Professional: Mays Consulting & Evaluation Services, Inc.	
Owner: [Client]	Original Contract Date: [Contract Date]
Project No.: AAA##-###	
DESCRIPTION: [Description]	

Cost Breakdown:

A. LABOR UNIT PRICES (including payroll taxes, fringe benefits, workers' compensation insurance, overhead, and profit):
Unit Prices from Bid Form or Subsequently Agreed Upon

Labor Type	Quantity of Hours		Labor Unit Price		Labor Subtotals
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -
	0	hours x	\$ -	per hour =	\$ -

A. LABOR UNIT PRICES:	Total A:	\$ -
B. EQUIPMENT (attach quotes/invoices):	Total B:	\$ -
C. MATERIALS (attach supporting documentation):	Total C:	\$ -
D. SUB - SUBCONTRACTOR 2A (To be approved by Design Professional):	Total D:	\$ -
E. SUB-SUBCONTRACTOR 2B (To be approved by Design Professional):	Total E:	\$ -
F. EQUIPMENT, MATERIAL, AND SUBCONTRACT SUBTOTAL (B+C+D+E)	Total F:	\$ -
G. OVERHEAD & PROFIT (F x 15%): Overhead and Profit Limit: 15%	Total G:	\$ -
H. BONDS (attach supporting documentation):	Total H:	\$ -
I. INSURANCE (attach supporting documentation):	Total I:	\$ -
J. PERMITS (attach supporting documentation):	Total J:	\$ -
GRAND TOTAL (A+F+G+H+I+J):		\$ -

Subcontractor 2 - Equipment Costs

Project: [Project Name]
Project No.: AAA##-###

<u>Equipment</u>	<u>Total Cost</u>	
	\$ -	
	\$ -	
	\$ -	
	\$ -	
	\$ -	
	\$ -	
	\$ -	

Grand Total of Equipment = \$ -

**Attach or Insert screenshot of the quote

Sample Rental Equipment Quote

Sample

Subcontractor 2 - Materials

Project: [Project Name]
Project No.: AAA##-###

Material Description	Quantity	Unit Cost	Total Cost
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -
		\$ -	\$ -

Grand Total Materials = \$ -

*Attach Supporting Documentation or Insert Screenshot

Sample Rental Equipment Quote

Sample

Subcontractor 2 - Additional Documentation

*Attach Supporting Documentation or Insert Screenshot

Sample Rental Equipment Quote

Sample

00 65 19.17
MATERIAL SUPPLIER CERTIFICATE AND WAIVER OF LIEN
ACKNOWLEDGEMENT OF PAYMENT

Supplier: _____

Project: _____

Address: _____

Owner: _____

Period from _____ to _____
*date**date*

Materials, Equipment and/or Machinery have been delivered to the site, or materials have been especially fabricated for the project during the Period as follows:

Description:

_____ (Supplier) hereby certifies that payment has been received in full for the above and hereby waives all right to liens and claims against the Owner therefor based upon Ohio Revised Code Section 1311.25, et seq.

By _____

Title _____

Date _____

State of _____

County of _____

Subscribed and sworn to before me this _____ day of _____
20____

Notary Public

END OF SECTION 00 65 19.17 – MATERIAL SUPPLIER LIEN WAIVER

00 65 19.18
SUB-CONTRACTOR AFFIDAVIT AND WAIVER OF LIEN
ACKNOWLEDGEMENT OF PAYMENT

_____ (Subcontractor), having a contract
with _____ (Contractor) for
the _____ Work for the following
Project:

Project Name:

Location:

Owner:

has performed work and/or furnished Materials, Equipment and/or Machinery or has fabricated materials especially for the Project, during the period from _____ to _____ (Period); Payment has been received from Contractor in the amount of \$_____ which is the amount due for the performance of the subcontract during the Period, not including charges for which written change orders have not been received.

SUB-CONTRACTORS

Each and every Sub-subcontractor to Subcontractor that performed work for Subcontractor on the Project during the Period is listed below and payments have been made to these Sub-subcontractors in the following amounts:

Sub-Subcontractor	Address	Description of Work	Amount Paid

A Subcontractor Affidavit and Waiver of Lien – Acknowledgement of Payment for each of the above named Subcontractors is attached hereto.

MATERIALS

Each and every Material Supplier who during the Period delivered Materials, Equipment and/or Machinery to the site, or who delivered to us materials especially fabricated for the Project, of a value in excess of \$_____, is listed below and has been paid the following amounts:

Supplier	Address	Material	Amount Paid

A Material Supplier Certificate and Waiver of Lien – Acknowledgement of Payment for each of the above named Material Suppliers is attached hereto.

All Labor, Materials, Equipment, and/or Machinery, or materials especially fabricated for the Project, supplied by the Subcontractor has been paid for in full.

Subcontractor hereby waives all rights to liens and claims against the Owner, based upon Ohio Revised Code Section 1311.25, et seq., to the amount of payment received for the performance of its subcontract during the Period and further states that no other person has any right to a lien or claim against the Owner on account of work performed or for Material, Equipment and/or Machinery, or for material especially fabricated for the Project, furnished to Subcontractor during the Period.

I, _____ being _____ of
Title

_____ hereby acknowledges the foregoing in full and certifies
(Name of Sub-Contractor)

that this is a true and accurate statement.

(Signature)

State of _____

County of _____

Subscribed and sworn to before me this _____ day of _____ 20____.

Notary Public

END OF SECTION 00 65 19.18 – SUBCONTRACTOR LIEN WAIVER

00 65 80
ASBESTOS FREE CERTIFICATE

The undersigned Contractor certifies that:

1. It has disclosed to the Design Professional in writing every incident in which to its knowledge it discovered Asbestos Containing Materials (ACM) during the course of the Contractor's Work at the 2027 Roof Replacement at Wright Elementary School Project.
2. all materials incorporated by the undersigned into the Project are asbestos free.

Contractor

By:

Signature

Typed Name

Title

Date

State of _____

County of _____

Subscribed and sworn to before me this _____ day of _____, 20____.

Notary Public

END OF SECTION 00 65 80 – ASBESTOS FREE CERTIFICATE

01 11 00
SUMMARY OF WORK

PART 1 – GENERAL

1.01 GENERAL

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY OF WORK

- A. The following is only a summary of the work that is to be completed and is not all-inclusive. The Contract Documents shall be reviewed as they specify all of the requirements for the project.
- B. Base Bid – Roof Areas H1 - H6, I1 – I3, J1, J2, K1 - K5, L1, L2, G1, G2, and M1 – M4

Related Specifications

Division 1	General Requirements
02 41 19	Selective Demolition
02 82 20	Asbestos Remediation – Hazardous Materials Abatement
02 82 21	Asbestos Remediation – Summary of Work
02 82 22	Asbestos Remediation – List of Contractor Requirements
02 82 23	Asbestos Remediation – Codes and Regulations
02 82 24	Asbestos Remediation – Temporary Facilities
02 82 25	Asbestos Remediation – Work Practices
02 82 26	Asbestos Remediation – Abatement Monitoring
02 82 27	Asbestos Remediation – Asbestos Abatement Procedures
02 82 28	Asbestos Remediation – Forms
02 82 29	Asbestos Remediation – Project Closeout
05 30 23.01	Steel Deck Repair
06 10 53.01	Rough Carpentry for Roofing
07 22 16	Roof Board Insulation
07 24 19	Water-Drainage Exterior Insulation and Finish System
07 31 13	Asphalt Shingles
07 53 23	Ethylene-Propylene-Diene-Monomer (EPDM) Roofing
07 62 00	Sheet Metal Flashing and Trim
07 72 00	Roof Accessories
07 92 00	Joint Sealants
26 41 13	Lightning Protection for Structures
32 92 00	Turfs and Grasses

Summary of Work

Steep Slope Roof Replacement

1. Remove/abate existing faux slate (asbestos containing material) down to the existing FRT plywood roof deck.

2. Remove the existing 5/8" FRT plywood roof sheathing.
3. Install new 5/8" FRT plywood roof sheathing.
4. Install self-adhering underlayment over the entire roof area.
5. Install new sheet metal flashings, valley, trim, gutters (where specified), and miscellaneous sheet metal as specified.

Low-Sloped Roof Replacement

1. Remove the existing membrane roof system down to the structural steel roof deck on Roof Areas G1 and G2.
2. Inspect the structural steel deck for areas of deterioration.

Areas of corroded steel roof decking shall be prepared and painted on a unit price basis. See Section 01 21 00 Allowances for the quantity of corrosion removal and painting that is to be included in Base Bid.

Areas of moderately-to-severely corroded steel roof decking shall be replaced on a unit price basis. See Section 01 21 00 Allowances for the quantity of steel roof deck replacement that is to be included in Base Bid.

3. Install 60 mil fully-adhered EPDM Membrane Roof System in accordance with the Contract Documents.
4. Install new edge metal, counterflashings, and miscellaneous sheet metal as specified.

Exterior Insulation and Finish System (EIFS) Repairs

1. Remove and/or repair the existing EIFS system as specified. See project drawings and elevations for the repair and/or replacement extents.

Miscellaneous Items

1. Enlarge the existing attic intake vents in the existing soffits.
2. Remove the existing lightning protection system within the shingle roof area and install new lightning protection system per the specified lightning protection standards.

The lightning protection system at the high side of the steep sloped roof area has been recently replaced. These components are to be removed as necessary to install the new roof system and the existing system re-installed.

The down conductor and the existing below roof components of the down conductor shall be assumed to be adequately spaced and re-usable.

A UL Inspection shall be performed and a Letter of Findings provided upon the

lightning protection system installation.

1.03 CONSTRUCTION TIME

- A. Time is of the essence in the performance of the Contract for the Project.
- B. Alternate Work: All alternate work must be completed in conjunction with the Base Bid work.

1.04 PROJECT CONDITIONS AND WARNINGS

- A. All activities shall be performed in a way to provide Owner with an immediate watertight roof system at all times during construction. It is the Contractor's responsibility to prevent construction-related leaks.
- B. The majority of the work is over occupied space. Every precaution must be taken to protect the building occupants, the general public, and the contents/products stored in the building. The removal and replacement of the roof system shall be completed on specific roof and wall sections at such times as authorized by the Owner and Design Professional.
- C. It is the Contractor's responsibility to prevent odors, dust, and hazardous materials from entering into the building.
- D. Electrical service conduit lines, at some locations, are in close proximity to the bottom of the structural roof deck. It is the Contractor's responsibility to prevent fastener penetration of same.
- E. All activities shall be so staged to prevent interference with the building occupant operations to the greatest extent possible. Safety of building occupants shall be of utmost priority in all stages of the project.
- F. In general, because of the nature of the project (high visibility and high profile), it is recommended that the Contractor instruct project-related personnel to not unduly alarm the general public and occupants. All issues regarding safety and security shall be communicated to all responsible parties, including occupants and the general public in the immediate vicinity of the work in progress - ALL SAFETY REGULATIONS SHALL APPLY. Communications shall be made through appropriate channels as approved through Owner's Design Professional.

1.05 USE OF SITE

- A. Use of Site: Limit use of premises to areas within the limits indicated. Do not disturb portions of the site beyond areas in which the Work is indicated.
 - 1. Limits: Limit size of disturbance to 30 feet beyond building perimeter; 10 feet beyond surface walkways, patios, surface parking, that require additional staging areas in order to limit compaction in the constructed area. See the project drawings for any areas where site access is limited.
 - 2. Owner Occupancy: Allow for Owner occupancy of Project site and use by the public.
 - 3. Driveways and Entrances: Keep undesignated driveways, parking areas, loading

areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use undesignated areas for parking or storage of materials.

- a. Schedule deliveries to minimize use of driveways and entrances.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- B. Use of Existing Building: Maintain existing building in a weathertight condition throughout construction period. Repair damage caused by construction operations. Protect building and its occupants during construction period.

1.06 OWNER'S RIGHT TO MAINTAIN OPERATIONS

- A. During the course of this Project, normal and customary facility functions and operations must be maintained. The Contract Documents are intended to define a strict separation between the facility activities and the construction project.
- B. The Owner will not tolerate any visible or audible actions initiated or responded to by employees of Contractors on this Project toward the building occupants or public at the facility. Violators shall be promptly removed from the Project site.
- C. Contractors shall expend their best effort toward protection of the health, safety, and welfare of occupants on the Owner's property during the course of Work on this Project.
- D. Contractors and subcontractors shall be subject to such rules and regulations for the conduct of the Work as the Owner may establish. Employees shall be properly and completely clothed while working. Bare torsos, legs, and feet will not be allowed. Possession or consumption of alcoholic beverages or drugs, tobacco, or other noxious behavior on the Project site is strictly prohibited. Violators shall be promptly removed from the Project site.
- E. No interruption to the Owner's operations will be permitted and Contractor shall schedule and perform his work accordingly.

1.07 OWNER'S OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: Owner will occupy Project site and building during the 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 permission from Owner and authorities having jurisdiction.
 - 2. Provide not less than 48 hours' notice to Owner of activities that will affect Owner's operations.

1.08 CODES AND REGULATIONS

- A. It is the intent of the Design Professional that the Contract Documents are in accordance

with applicable laws, statutes, building codes and regulations. Contractor shall notify Design Professional and Owner immediately if Contractor observes that the Contract Documents are at variance with this intent in any respect. Design Professional shall make any necessary changes.

- B. If the Contractor performs Work knowing it to be contrary to such laws, ordinances, rules, and regulations, and without such notice to the Design Professional and Owner, the Contractor shall assume full responsibility therefore and shall bear attributable costs.

1.09 PERMITS, FEES, AND NOTICES

- A. The Contractor shall secure and pay for all building permits, trade permits, bonds, and other permits and governmental fees, licenses and inspections necessary for the proper execution and completion of the Work which are customarily secured after execution of the Contract.
- B. Shutdowns of existing systems shall be limited to minimum time required and scheduled with other involved parties. Provide 72 hours written notice of shutdown to Design Professional and Owner.
- C. Inspections of installed work shall be performed by governing authority (when required by governing authority) as arranged for by the Contractor. Work shall not be covered until approved.
- D. Contractor shall give notices and comply with laws, ordinances, rules, regulations, and orders of public authorities bearing on the performance of his Work.

1.10 WORK RESTRICTIONS

- A. 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. Definitions:
 - 1. Ambient Noise Level: The total noise associated with a given environment, being usually a composite of normal or existing sounds from all sources near and far, excluding the noise source at issue.
 - 2. Daytime: The hours from 7:00 a.m. to 9:00 p.m. on weekdays and 9:00 a.m. to 9:00 p.m. on weekends and holidays.
 - 3. Nighttime: All non-daytime hours.
 - 4. Property Line: The real or imaginary line along the ground surface and its vertical extension, which separates real property owned or controlled by one person from contiguous real property owned or controlled by another person or from any public right-of-way or from any public space.
 - 5. Receiving Noise Area: Any real property where people live or work and where noise is heard, excluding the project or source area.
- C. Work Hours:
 - 1. The contractor will be permitted to work at the Project Site at the following times

without prior written permission of the Owner or Design Professional:

Monday through Friday	7:00 a.m.	to	9:00 p.m.
Saturday	7:00 a.m.	to	9:00 p.m.
Sunday	No Work Permitted.		
Holidays	No Work Permitted.		

The Owner or Design Professional, at their sole discretion, may restrict working time or grant permission for additional working time.

Some municipalities and/or local authorities restrict work hours. The Contractor shall abide by all legal requirements regarding project work hours.

2. The following operations must also be completed during non-operating hours or completed in a manner that does not affect the operations of the building:
 - a. All operations which produce loud noises, and/or have the potential for injury related incidents from falling objects (i.e. tear off, decking replacement, curb removal, etc.), shall also be confined to non-operating hours. All project related interior debris, interior covering, equipment, etc. shall be removed and the interior shall be brought to like cleanliness condition prior to operating hours.
 - b. All operations (i.e. steel deck painting, adhesive application, etc.) which require HVAC equipment, ventilators, and air handling equipment to be shut off and/or sealed shall be completed in a time frame necessary to put such equipment back in service to achieve the desired interior operating temperature, and be odor free, at the time operations resume. It is the Contractor's responsibility to monitor and protect the interior and occupants of the building at all times during construction.
 - c. Any other special operations that interfere with the Owner/tenant daily operations.
- D. Noise Control: Perform construction operations to minimize noise. Coordinate operations that may result in high levels of noise or other disruption to Owner occupancy with Owner.
 1. Notify Owner not less than two (2) days in advance of proposed disruptive operations.
- E. Repetitive and/or Intermittent, high-level noise:
 1. Do not exceed the following dB limitations:

<u>Sound Level dB</u>	<u>Time Duration of Impact Noise</u>
70	More than 12 minutes in any hour
80	More than 3 minutes in any hour
 2. Provide equipment, sound-deadening devices, and take noise abatement measures that are necessary for compliance.
 3. Maximum permissible construction equipment noise levels at 50 feet (dB):

<u>Equipment</u>	<u>dB</u>
Trucks	75
Generators	75
Compressors	75
Cranes	75
Saws	75

F. Ambient Noise:

1. Maximum noise levels (dB) for receiving noise area at property line shall be as follows:

a.	Residential receiving area	Daytime:	65 dB
		Nighttime:	60 dB
b.	Commercial/Industrial receiving area	Daytime:	67 dB
		Nighttime:	65 dB

G. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Design Professional and Owner not less than 48 hours in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without written permission.

H. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.

1.11 DRAWINGS AND SPECIFICATIONS

- A. The Owner shall furnish the Contractor an electronic copy of the plans and specifications for use during the project. The Contractor shall provide a minimum of one (1) hard copy for use on-site, in addition to the Record and Permit Drawings.

1.12 MISCELLANEOUS PROVISIONS

- A. Contractor shall enforce strict discipline and good order among his employees or other persons carrying out Work of his Contract and shall not permit employment of unfit person or persons or anyone not skilled in the task assigned to them.
- B. The Contractor's employees shall be instructed to refrain from fraternization with the building occupants.
- C. When requested, the Contractor shall furnish Design Professional a list of personnel to be working at the site.
- D. When verification of existing dimensions is required, the Contractor requiring said verification for the construction or fabrication of his material shall be the Contractor responsible for the procurement of the field information.

- E. Do not scale documents. Obtain or verify all dimensions for the accommodation of equipment and/or materials to be installed by the Contractor. Dimensions on the drawings indicate nominal sizes under ideal conditions and shall not be construed to relieve the Contractor of the responsibility of taking measurements in the field and furnishing material of the correct dimensions.
- F. Advertising, References, and Pictures: Do not make reference to the project or use photographs of the work in any advertising without written permission of the Owner. These limitations also apply to subcontractors and vendors.
- G. Building Access: The Contractor's employees will not be allowed within the building without permission of the Owner and must follow directions of the Owner when in the building. The Owner shall retain the right to inspect all packages, material, equipment, and property of any nature, entering and/or leaving the facility, as circumstances warrant. The Owner shall hold any material which he deems irregular or about which he has any doubt until it is inspected.
- H. No gambling, drugs or alcoholic beverages will be permitted on the site at any time.
- I. Hazardous Materials: The Contractor in addition to products banned as part of the Clean Air Act (NESHAP Rule, Nov. 1990 Revision; 40 CFR 60, Subpart M) shall not use or bring on-site materials containing more than 1 percent asbestos by polarized-light microscopy (PLM) analysis. No materials marked as "MAY CONTAIN MINERAL FIBERS" shall be used in construction unless written results of microscopic examination by an AIHA or NVLAP-certified laboratory documenting the asbestos content at less than 1 percent are provided and approved before installation.
 - 1. If materials containing more than 1 percent asbestos are brought onto Project site by Contractor, materials shall be removed in accordance with all applicable laws and precautions so as not to make fibers friable. Removal of materials containing more than 1 percent asbestos and replacement of such materials shall be at contractor's expense.
 - 2. Before final payment, the contractor shall submit to the Owner, on contracting firm's letterhead, a signed, dated copy of the following statement: "I hereby certify to the best of my knowledge that no asbestos containing material (ACM) above 1 percent content was used as a building material for this Project."

1.13 TOBACCO POLICY

- A. Smoking Ban:
 - 1. Smoking (including E-cigarettes) is prohibited in any "public place" or "place of employment" as of December 7, 2006. For definitions of a "public place" and "place of employment", refer to ORC 3794.01 Definitions.
 - 2. All "public places" and "places of employment" must, by December 7, 2006, post conspicuous signs at each entrance. The signs must be clearly legible and shall contain a toll-free number for reporting violations. Refer to ORC 3794.06 (A) Posting of Signs.
- B. Tobacco Use:

1. Smoking, E-cigarettes, and tobacco use is not permitted on the site, including vehicles.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION 01 11 00 - SUMMARY OF WORK

**01 21 00
ALLOWANCES**

PART 1 – GENERAL

1.01 GENERAL

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements governing allowances.
 - 1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in order to address common work items that are required for this type of project, but the exact quantities are unknown until the existing components are removed.
- B. Types of allowances include the following:
 - 1. Lump-sum Allowances.
 - 2. Unit Price Allowances.

1.03 LUMP SUM ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials required to complete the scope of work required for the allowance and shall include taxes (if applicable), freight, and delivery to Project site.
- B. Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to the scope of work required for the allowance.
- C. Unused Materials: Return unused materials purchased under a Lump Sum Allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.

1.04 ADJUSTMENT OF ALLOWANCES

- A. Lump Sum Allowance Adjustment: To adjust allowance amounts, prepare a Change Order based on the difference between the actual cost of the allowance scope of work and the Allowance amount.
 - 1. The Contractor shall substantiate all costs for a Lump Sum Allowance. This shall include daily reports indicating labor hours utilized to complete the allowance scope of work, invoices for rented equipment, and material invoices for materials.
- B. Unit Price Allowance Adjustment: To adjust allowance amounts, prepare a Change Order based on the additional unit price work that is anticipated and agreed on by all parties for each unit price.

1. The contractor shall not proceed with unit price work if the Unit Price Allowance has been completely utilized. The Contractor is responsible to monitor how much of the Unit Price Allowance has been utilized and notify the Design Professional and Owner prior to the Unit Price Allowance being fully utilized.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION

3.01 SCHEDULE OF ALLOWANCES

A. Base Bid

1. Lump Sum Allowances: Include the following lump sum allowance amounts in Base Bid for inclusion in the Contract Sum:
 - a. Allowance #1: Include \$5,000 lump sum allowance for the remove and replacement of deteriorated wood blocking.
2. Unit Price Allowances: Include the following unit price allowances amounts in Base Bid for inclusion in the Contract Sum:
 - a. Allowance #2: Include 100 square feet of the removal and replacement of deteriorated steel roof decking.
 - b. Allowance #3: Include 100 square feet of corrosion removal and painting of deteriorated steel roof decking.
 - c. Allowance #4: Include 40 hours of preparing and painting corroded light gauge steel attic framing (at plywood sheathing replacement areas).

B. Alternate #1

1. Lump Sum Allowances: Include the following lump sum allowance amounts in Alternate #1 for inclusion in the Contract Sum:
 - a. Allowance #5: Include \$5,000 lump sum allowance for the remove and replacement of deteriorated wood blocking.
2. Unit Price Allowances: Include the following unit price allowances amounts in Alternate #1 for inclusion in the Contract Sum:
 - a. Allowance #6: Include 20 hours of preparing and painting corroded light gauge steel roof joists (at plywood sheathing replacement areas).

END OF SECTION 01 21 00 – ALLOWANCES

**01 22 00
UNIT PRICES**

PART 1 – GENERAL

1.01 GENERAL

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY OF WORK

- A. This Section includes administrative and procedural requirements for unit prices.

1.03 DEFINITIONS

- A. Unit price: A price per unit of measurement for materials and/or services that could be added or deducted from the Contract Sum.

1.04 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment:
 - 1. The Contractor must measure and document the amount of unit price work that is required to be completed on a daily basis. A daily written report, along with plan view or elevation drawings showing the approximate location of the work, must be completed.
 - 2. The documentation of the unit price work must include photographs prior to the work being completed to demonstrate that the work is required. In addition, photographs shall also be provided showing that the unit price work was completed. Unit price work will not be approved for payment unless the Contractor provides the specified documentation.
 - 3. The Contractor shall provide an update at every progress meeting outlining how much unit price work was completed and how much unit price work is remaining to be completed. The amount of remaining unit price work shall be evaluated at every progress meeting to determine if the remaining allowance for unit price work included in the contract is sufficient. If the amount of unit price work is determined to be insufficient, the parties shall agree on an allowance for future unit price work that may be needed and the Contract Sum increased by this amount.
 - 4. At the completion of the Work, any remaining allowance for unit price work shall be deducted from the Contract Sum.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and have this work measured, at Owner's expense, by the Design Professional.
- D. List of Unit Prices: A list of unit prices is included on the Bid Form. Specification Sections referenced in the schedule contain requirements for materials described under each unit

price.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION

3.01 UNIT PRICE SCHEDULE

Item No.	Section	Item or Material	Unit of Measure
1	05 30 23.01	Prepare the existing steel roof decking by removing corrosion and painting the existing roof decking.	Sq. Ft.
2	05 30 23.01	Removal and replacement of areas of deteriorated steel roof decking.	Sq. Ft.
3	05 30 23.01	Prepare existing light gauge steel roof framing by removing corrosion and painting.	Per Hour
4	06 10 53.01	Remove and replace 5/8" FRT treated plywood sheathing (roof or wall).	Per Sheet
5	N/A	Roofing Foreman*	Per Hour
6	N/A	Roofing Mechanic*	Per Hour
7	N/A	Sheet Metal Foreman*	Per Hour
8	N/A	Sheet Metal Mechanic*	Per Hour
9	N/A	Plastering Foreman*	Per Hour
10	N/A	Plastering Mechanic*	Per Hour
11	N/A	Laborer*	Per Hour

*Hourly rate unit prices to reflect rate of the trade to complete additional required work. These rates are to include base rate, fringes, payroll burden, overhead, and profit.

END OF SECTION 01 22 00 – UNIT PRICES

**01 23 00
ALTERNATES**

PART 1 – GENERAL**1.01 GENERAL**

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to this Section.
- B. This Section includes administrative and procedural requirements for alternates.

1.02 DEFINITION

- 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 the corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. The 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.

1.03 SUMMARY OF WORK**A. Alternate #1 – Sheet Metal Fascia and Soffit Replacement****Related Specifications**

Division 1	General Requirements
02 41 19	Selective Demolition
05 30 23.01	Steel Deck Repair
07 62 00	Sheet Metal Flashing and Trim

Summary of Work

- 1. Remove the existing sheet metal fascia and soffit.
- 2. Remove the existing FRT treated plywood sheathing.
- 1. Install new 5/8" FRT plywood sheathing.
- 3. Install adhered sheet air and moisture barrier.
- 4. Install new sheet metal fascia, soffit, and attic vents.

1.04 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the Alternate into the Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
 2. Contractor shall be responsible for any changes in the Work affected by the acceptance of Alternates. Claims for extras resulting from changes caused by the Alternates will not be allowed.
 3. Alternates will be exercised at the option of the Owner.
 4. Contractor shall coordinate related work and modify surrounding work as required to complete the Work, including changes under each Alternate, when acceptance is designated by the Owner.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration.
- C. Execute accepted alternates under the same conditions as other work of the Contract.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION 01 23 00 - ALTERNATES

01 29 00
PAYMENT PROCEDURES

PART 1 – GENERAL**1.01 GENERAL**

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to this Section.
1. Refer to Article 9 of General Conditions.
- B. Project Forms: This Section requires the Contractor to prepare and submit various American Institute of Architects (AIA) forms as part of the Contractor's Application for Payment. These forms are copyrighted, and the contractor is responsible for properly obtaining these forms through AIA for use on this project. Any forms that are specified to be prepared by the Design Professional (i.e. Change Orders and Certificate of Substantial Completion), will be provided by the Design Professional at no cost to the Contractor. These forms can be obtained online at www.aiacontracts.org/purchase. The following is a list of forms that are needed for this Section:
1. G702 – Application and Certificate for Payment
 2. G703 – Continuation Sheet

1.02 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
1. Coordinate the Schedule of Values with Applications for Payment, Project Schedule, Submittal Schedule, and List of Subcontracts.
 2. Progress payments will not be processed without an approved Schedule of Values.

1.03 SCHEDULE OF VALUES

- A. Coordination: Contractor shall coordinate preparation of their own Schedule of Values with the Construction Progress Schedule.
- B. Format and Content: The Schedule of Values shall include a thorough breakdown of the following work items as a minimum with the limitations indicated:
1. Mobilization
 2. Bonds, Insurance, and Permits
 3. Submittals: In the amount of 2 percent of the Contract; however, not less than \$1,000 or more than \$10,000.
 4. General Conditions (Lifts, dumpsters, safety, etc.)
 5. Project Supervision
 6. Sub-Contract A
 - Material
 - Labor
 7. Materials

- Carpentry
- Roofing
- 8. Roof/Wall Area A
 - Demolition
 - Carpentry Labor
 - Insulation Labor
 - Roofing Labor
 - Sheet Metal Labor
- 9. Allowances
 - Deck Replacement
 - Deck Painting
- 10. Change Orders
- 11. Punch List: In an amount of 2 percent of the Contract; however, not less than \$1,000 minimum and \$50,000 maximum.
- 12. Warranty: Actual warranty cost.
- 13. Site Remediation
- 14. Lawn Maintenance
- 15. Close-Out Requirements: In an amount equal to 3 percent of the Contract amount; however, not less than \$500 or more than \$10,000.
- 16. Demobilization

1.04 APPLICATIONS FOR PAYMENT

- A. The Application and Certification for Payment, including progress payments shall be as indicated in the Contract. Payments will not be made until final approval by the Owner and Submittals that precede application have been received and accepted.
 - 1. Refer to General Conditions Article 9.
 - 2. Each Application and Certification for Payment shall be submitted with three (3) originals.
 - 3. Each Application for Payment to be accompanied by affidavits from principal subcontractors and suppliers to demonstrate that funds from the previous Application for Payment have been properly disbursed in accordance with Article 9.6 of the General Conditions of the Contract for Construction. Failure by the Contractor to submit affidavits will be considered cause for the Design Professional to decline to certify payment. In such event, payment will not be reconsidered until the following month.
- B. Payment Request shall be consistent with previous applications and payments as observed by Design Professional and paid for by the Owner. Payment Request shall include the following information and documentation:
 - 1. Contractor's Payment Application Checklist.
 - 2. Application and Certificate for Payment (AIA Documents G702 and G703).
 - 3. Change Order (AIA Document G701)
 - 4. Contractor's Waiver & Release Affidavit
 - 5. Original invoices for materials and equipment to verify the amount due the Contractor.
 - 6. Back-up - Time Sheet for project labor.
 - 7. Current list of the Contractor's Subcontractors and material suppliers showing their

8. respective contract sums, amount paid and amount due.
 9. Subcontractor Waiver & Release Affidavit (beginning with the second Application for Payment).
 10. Schedule of all materials stored on site.
 11. Schedule of all materials stored off site.
 12. Material Supplier Waiver & Release Affidavit (beginning with the second Application for Payment).
 13. Copies of daily Construction Reports for the time period of the payment request, inclusive of documentation of work completed on Allowance work items.
- C. Application Preparation: Complete every entry on the form. Include execution by a person authorized to sign legal documents. The Design Professional will return incomplete applications without action.
- D. Initial Payment Request: Administrative actions and submittals that must precede or coincide with submittal of the first Payment Request, in addition to the previously outlined items, include the following:
1. Approved Schedule of Values.
 2. Approved Construction Progress Schedule.
 3. Permits.
 4. Certificates of Insurance and insurance policies.
- E. Progress Payment Requests: Administrative actions and submittals that must precede or coincide with submittal of the Progress Payment Request include the following:
1. Updated and approved Construction Progress Schedule.
 2. Review of Project Record Documents to confirm they are being properly updated.
- F. Final Payment Request: Administrative actions and submittals that must precede or coincide with submittal of the final Contractor Payment Request include the following:
1. Contractor's Final Waiver and Release Affidavit
 2. Subcontractors Final Waiver and Release Affidavit
 3. Suppliers Final Waiver and Release Affidavit
 4. Consent of Surety to Final Payment
 5. Certificate of Substantial Completion
 6. Manufacturer's Inspection Report(s)
 7. Specified Warranty(ies)
 8. Operating and Service Instructions
 9. As-Built Drawings
 10. Contractor's Certificate of Insurance
 11. Contractor's Worker's Compensation Certificate.
 12. Asbestos Free Certificate in the form contained in the Contract Documents
 13. Project Close-Out Submittals.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION 01 29 00 – PROGRESS PAYMENTS

01 31 00
PROJECT MANAGEMENT AND COORDINATION

PART 1 – GENERAL**1.01 GENERAL**

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes administrative provisions for coordinating operations on Project including, but not limited to, the following:
 - 1. General project coordination procedures.
 - 2. Subcontract list.
 - 3. Administrative and supervisory personnel.
 - 4. Requests for Information (RFI's).

1.03 DEFINITIONS

- A. Request for Information (RFI): A request from the Contractor seeking information or clarification of some requirement of the Contract Documents. The Contractor shall clearly and concisely set forth the issue for which it seeks clarification or information and why a response is needed. The Contractor shall, in the written request, set forth its interpretation or understanding of the Contract's requirements along with reasons why it has reached such an understanding. Responses will not change any requirements of the Contract Documents.
- B. Superintendent: Contractor's personnel in charge of day-to-day operations on the project, perform quality control, coordinate subcontractors, update the construction schedule, and maintain Record Documents.
- C. Foreman: Contractor's personnel in charge of a group of workers under the direction of a Superintendent. Provides leadership and is responsible for the work being performed.

1.04 COORDINATION

- A. Coordination: Coordinate construction operations with those of subcontractors and entities to ensure efficient and orderly installation of each part of the Work. Coordinate its operations, with work included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
 - 4. Where availability of space is limited, coordinate installation of different components

to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.

- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of subcontractors to avoid conflicts and to ensure orderly progress of the Work.

1.05 PROJECT SUPERVISION

- A. The Contractor shall assign a Superintendent and necessary assistants, all satisfactory to the Design Professional. Superintendent shall represent Contractor and all instructions given to him shall be as binding as if given to Contractor. Contractor's Superintendent is not to be replaced during progress of work without consent of Design Professional.
- B. A superintendent shall be on-site at all times when work is being performed by the Contractor or any subcontractors, unless approved otherwise by the Design Professional. The superintendent shall not be continuously involved in the on-going work where it prevents him from performing the required responsibilities of the superintendent.
- C. A foreman shall be on-site at all times when work is being performed by the foreman's crew, unless approved otherwise by the Design Professional. The foreman shall not be continuously involved in the on-going work where it prevents him from performing the required responsibilities of the foreman.
- D. Contractor shall be responsible for all personnel employed in work and shall have power to employ and discharge such personnel, or remove from project site, personnel who, in the judgement of the Design Professional, are detrimental to the best interest of Owner and the project.

1.06 REQUESTS FOR INFORMATION (RFI)

- A. Procedure: Immediately on discovery of the need for information regarding the Contract Documents, and if not possible to request information at Project meeting, prepare and submit an RFI in the form specified.
 - 1. RFI's shall originate with the Contractor. RFI's submitted by entities other than Contractor will be returned with no response.
 - 2. Coordinate and submit RFI's in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of RFI: Include a detailed, legible description of item needing information and why a response is needed along with the following:
 - 1. Project name.
 - 2. Date.
 - 3. Name of Contractor.
 - 4. Name of Design Professional.

5. RFI number, numbered sequentially.
 6. Specification Section number and title and related paragraphs, as appropriate.
 7. Drawing number and detail references, as appropriate.
 8. Field dimensions and conditions, as appropriate.
 9. Contractor's suggested solution(s). Contractor shall set forth an interpretation or understanding of the requirement along with reasons why such an understanding was reached. If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 10. Contractor's signature.
 11. Attachments: Include drawings, descriptions, measurements, photos, product data, shop drawings, and other information necessary to fully describe items needing interpretation.
- C. Design Professional Action: Design Professional will review each RFI and determine action required. If it is determined that the document is not RFI, it will be returned to the Contractor, unreviewed as to content, for resubmittal on the proper form and in the proper manner. If the RFI is determined unnecessary or frivolous, by nature of the information clearly indicated in documents, the RFI will also be returned with no response. Allow three (3) working days for Design Professional's response for each RFI. RFI's received after 1:00 p.m. will be considered as received the following working day. If a longer time is determined necessary, the Design Professional will, within five (5) working days of receipt of the request, notify the Contractor of the anticipated response time.
1. The following RFI's will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Request for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Design Professional's actions on submittals.
 - g. Incomplete RFI's or RFI's with numerous errors.
 2. Design Professional action may include a request for additional information, in which case Design Professional's time for response will start when Design Professional receives the requested additional information.
 3. Design Professional action on RFI's that might result in a change to the Contract Time or the Contract Sum may entitle Contractor to submit Change Proposal in accordance with the General Conditions.
 4. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Design Professional in writing within 10 days of receipt of the RFI response. Failure to give such written notice within 10 days shall waive the contractor's right to seek additional time or cost in accordance with the General Conditions.

1.07 DAILY CONSTRUCTION REPORTS

- A. Contractor shall keep a daily Construction Report. Daily Construction Report shall document weather conditions, number of personnel on site, hours worked, work accomplished, and conditions encountered. The Daily Construction Report shall be dated

- and signed by the Superintendent.
- B. The Contractor shall maintain a copy of all Daily Construction Reports at the project site and shall be available for review by the Owner or Design Professional, when on-site.
 - C. The Contractor shall submit to the Design Professional a copy of the daily Construction Reports with each Application for Payment and when requested by the Owner or Design Professional.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION 01 31 00 – PROJECT MANAGEMENT AND COORDINATION

01 31 19
PROJECT MEETINGS

PART 1 - GENERAL**1.01 GENERAL REQUIREMENTS**

- A. The provisions of the Contract, including General Conditions and the other Division 1 Specification Sections, apply to this Section.
- B. Attendance of all meetings by an Authorized Representative of the Contractor is mandatory.

1.02 SUMMARY

- A. This Section specifies administrative and procedural requirements for project meetings, including, but not limited to, the following:
 - 1. Post Award Meeting.
 - 2. Pre-Construction Meeting.
 - 3. In-Progress Meetings.
 - 4. Safety.
 - 5. Coordination.

1.03 DEFINITIONS

- A. Authorized Representative: A person authorized by the contractor to make decisions for the Contractor regarding project staffing, schedule, and change order items.

1.04 POST AWARD MEETING

- A. The Design Professional will schedule a Post Award Meeting prior to the submittal process, within ten (10) business days of the contract award letter.
- B. Attendees: Authorized representatives of the Contractor, Owner, and Design Professional; the Contractor and the submittal coordinator; major subcontractors; primary material manufacturer, as requested by the Design Professional; and other concerned parties shall attend the conference.
- C. Agenda:
 - 1. Tentative submittal and construction schedule.
 - 2. Submittal requirements.
 - 3. Submittal submission requirements.

1.05 PRE-CONSTRUCTION MEETING

- A. The Design Professional will schedule a Pre-Construction Meeting at the project site prior to the start of on-site construction. The Contractor shall be responsible to notify the appropriate Contractor personnel, subcontractors, material manufacturers, etc. involved or affected by the Work of the date, time, and location of the meeting.

- B. Attendees: Authorized representatives of the Contractor, Owner, and Design Professional; the Contractor's Superintendent and foreman; major subcontractors; primary material manufacturer's technical representative, when requested by the Design Professional and other concerned parties shall attend the conference.
- C. Agenda:
1. Safety.
 2. Project schedule.
 3. Delays – Weather, owner, contractor.
 4. 2-Week look ahead.
 5. Submittals.
 6. Review mock-ups, if applicable.
 7. Deliveries.
 8. Weather limitations.
 9. Compatibility problems.
 10. Manufacturer's recommendations.
 11. Warranty requirements.
 12. Acceptability of substrates.
 13. Inspection and testing requirements.
 14. Daily coordination
 15. Daily documentation requirements.
 16. Change order work.
 17. Job cleanliness.
 18. Upcoming events.
 19. Project details.
 20. In-Progress Meeting Schedule
- D. Meeting Minutes: The Design Professional will record significant discussions and agreements and disagreements of the Pre-Construction Meeting. The Design Professional will promptly distribute the record of the Pre-Construction Meeting to all attendees.

1.06 IN-PROGRESS MEETINGS

- A. The Design Professional will schedule In-Progress Meetings at the project site on a weekly or bi-weekly basis. The Contractor shall be responsible to notify the appropriate Contractor personnel, subcontractors, material manufacturers, etc. involved or affected by the Work of the date, time, and location of the meeting. All subsequent meetings shall be held on the same day of the week and at the same hour for the duration of the construction period and/or at such times as directed by the Design Professional. Additional meetings may also be required, depending on progress of the work, as instructed by the Design Professional.
- B. Attendees: Authorized representatives of the Contractor, Owner, and Design Professional; the Contractor's Superintendent and foreman; major subcontractors; and other concerned parties shall attend the conference.
- C. Construction Schedule Update: The Contractor shall provide an updated construction schedule at least 48 hours prior to each In-Progress Meeting.
- D. Agenda:

1. Safety.
2. Project schedule.
3. Delays – Weather, owner, contractor.
4. 2-Week look ahead.
5. Submittals.
6. Daily coordination
7. Project requirements.
8. Daily documentation requirements.
9. Job cleanliness.
10. Change order work.
11. Upcoming events.
12. Project details.

- E. Meeting Minutes: The Design Professional will record significant discussions and agreements and disagreements of each In-Progress Meeting. The Design Professional will promptly distribute the record of the Pre-Construction Meeting to all attendees.

1.07 COORDINATION MEETINGS

- A. The Contractor shall schedule and conduct subcontractor/coordination meetings as required for the project.

1.08 SAFETY MEETINGS

- A. The Contractor shall conduct a separate safety meeting after the safety plan is submitted. The Contractor shall take meeting minutes. The minutes shall be made available upon request. The Contractor shall notify the Design Professional of the times and dates of these meetings, who may elect to attend these meetings as an observer. A minimum of one (1) safety meeting shall be held per month.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION 01 31 19 - PROJECT MEETINGS

01 32 16
CONSTRUCTION SCHEDULE

PART 1 – GENERAL**1.01 GENERAL**

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to this Section.
- B. This Section includes administrative and procedural requirements for construction schedules.

1.02 SUMMARY

- A. The purpose of the Construction Schedule is to allow the Contractor to prepare an orderly plan to aid in the timely completion of the Project.
- B. The approved Construction Schedule will be used to plan and execute the work, to measure the progress of the work, to aid in evaluating time extensions, and to provide the basis for all progress payments.
- C. Contractors shall cooperate and coordinate with each other, and with the Design Professional and Owner, to provide all scheduling requirements in their respective schedules in accordance with the Contract Documents.
- D. Failure to maintain the Construction Schedule in an approved status may result in the Owner withholding progress payment until the Contractor provides an updated schedule that is approved.

1.03 PROJECT SCHEDULING SEQUENCE REQUIREMENTS

- A. The Contractor shall prepare a Construction Schedule for all work included under the scope of the Contract, in accordance with the General Conditions.
 - 1. The Contractor will prepare and furnish to all contractors a Master Activity Coding template, in hard copy and electronic, defining Responsibility Code, Work Area Code, Milestones, Phase Code, etc. for the Construction Schedule, as outlined in this section. Contractors shall submit subsequent schedule requirements in accordance with the Master Activity Code template to achieve continuity in merging scheduling input.
 - 2. The Contractor will prepare and distribute a schedule framework of proposed construction sequence to the Contractors.
- B. The Contractor shall submit the Construction Schedule to the Design Professional, with signature indicating approval.
 - 1. If acceptable, the Design Professional and Owner will accept the schedule.
 - 2. If not acceptable, the schedule will be returned to the Contractor for revision. The revised schedule, with approval signature, shall be resubmitted.

PART 2 – PRODUCTS

2.01 SCHEDULE SOFTWARE

- A. The computer software utilized by the Contractor to produce the project schedule shall be Primavera, Microsoft Project, or other software approved by the Design Professional and Owner.

PART 3 – EXECUTION

3.01 CRITICAL PATH METHOD

- A. The Critical Path Method (CPM) of network calculations will be used to generate the schedule. The Contractor shall provide the schedule in Precedence Diagram Method (PDM) or the Arrow Diagram Method (ADM).

3.02 LEVEL OF DETAIL REQUIRED

- A. With the exception of the preliminary schedule submission, the Construction Schedule shall include an appropriate level of detail. Failure of the Contractor to develop or update the schedule or provide resource information will result in the disapproval of the schedule.
- B. Activity Durations:
 - 1. Submit the following data to support the schedule calendar as it relates to durations. Failure of the Contractor to include this data will delay the review of the submittal until the Design Professional receives the missing data.
 - a. The proposed number of working days per week.
 - b. The holidays to be observed during the life of the contract (by day, month, and year).
 - c. The planned number of shifts per day.
 - d. The number of hours per shift.
 - e. Break up the work into activities of a duration no longer than 20 workdays each, except as to non-construction activities (e.g. procurement of materials, delivery of equipment, concrete and asphalt curing) and any other activities for which the Owner may approve a longer duration.
- C. Procurement Activities:
 - 1. Prepare the schedule in chronological order of submittals. Show specification section of the submittal, name of contractor and generic description or work covered. Include activities to cover the complete procurement process to include but not limited to: submittal, review, approval, resubmittal, procurement, fabrication, delivery, permits, and similar pre-construction work.
- D. Manpower:
 - 1. Activities shall have an estimate of the average number of workers per day that are expected to be used during the execution of the activity.
 - 2. Critical or near Critical Paths resulting from the use of manpower or equipment

restraints shall be kept to a minimum. Near Critical Paths are defined as paths having 10 workdays or less of total float.

E. Responsibility:

1. All activities shall be identified in the Construction Schedule by the party responsible to perform the work. Responsibility includes, but is not limited to, the Contractor, Subcontractor, Design Professional, or Owner.

F. Work Areas:

1. Arrange the schedule to show each major area of construction for each major category or unit of work.
2. All activities shall be identified in the Construction Schedule by the work area in which the activity occurs. Activities shall not be allowed to cover more than one work area. The work area of each activity shall be identified by the Work Area Code.

G. Change Order or Claim Number:

1. Any activity that is added or changed by a change order or used to justify any claimed time, shall be identified by change order code that changed the activity. Activities may not belong to more than one change order.

H. Milestones:

1. Milestone dates are defined in calendar days following the date set forth in the Notice to Proceed and are required to be met by all Contractors. Time is of the essence for the completion of Milestones and for the Contract Completion Date.
2. The following dates are defined in calendar days from the Notice to Proceed (unless noted otherwise) and shall be adhered to by each Contractor.
 - a. Milestone 1 (M1) – N/A

I. Adverse Weather:

1. Definitions:
 - a. Adverse Weather Day: A day when the magnitude of a weather parameter (precipitation or temperature) is such that it creates conditions that inhibit the ability of the contractor to work productively on a construction activity on the critical path.
 - b. Expected Adverse Weather Days: The number of weather days expected to occur on a monthly basis.
 - c. Unexpected Adverse Weather Days: The number of adverse days that exceed the expected number of adverse weather days determined on a monthly basis.
 - d. Actual Adverse Weather Days: The actual number of adverse weather days that occur during a single month.
 - e. Forecasted Weather Report: Weather forecast from a local weather forecasting source. Only forecasted weather reports for the next day are

- f. acceptable, long-range weather forecasts are not acceptable.
Precipitation: Rain, snow, or hail.

- 2. Tracking: The Contractor shall track weather forecasts and weather reports to document claims for additional time due to adverse weather conditions. Claims for additional time without documentation of actual or forecasted weather conditions, will be rejected.

3.03 SCHEDULED PROJECT COMPLETION

A. Project Start Date:

- 1. The Construction Schedule may start no earlier than the date that the Notice to Proceed (NTP) was issued. The Contractor shall include as the first activity in the Construction Schedule an activity named "Notice to Proceed." The "Notice to Proceed" activity shall have an early start constraint, a constraint date equal to the date that the NTP was issued, and a zero-day duration.

B. Constraint of Last Activity:

- 1. Completion of the last activity in the schedule shall be constrained by the contract completion date. Calculation on project updates shall be such that if the early finish of the last activity falls after the contract completion date, then the float calculation shall reflect a negative float on the Critical Path. The Contractor shall include as the last activity in the Construction Schedule an activity named "Contract Complete". The "Contract Complete" activity shall have a late finish constraint, a constraint date equal to the completion date, equal to the date identified in the NTP for the project, and a zero-day duration.

3.04 INTERIM COMPLETION DATES (MILESTONES)

- A. Contractually specified interim completion dates (Milestone dates) shall also be constrained to show negative float if early finish date of the last activity in that phase falls after the interim completion date.

3.05 DEFAULT PROGRESS DATA DISALLOWED

- A. Actual Start and Finish dates shall not be automatically updated by default mechanisms that may be included in the CPM Scheduling Software Systems. Actual Start and Finish dates and Remaining Durations on the CPM Schedule shall match those dates provided from Contractor Daily Reports for every in progress or completed activity and ensure that the data contained on the Daily Reports is the sole basis for schedule updating. Failure to comply may result in the disapproval of schedule.

3.06 OUT OF SEQUENCE PROGRESS

- A. Activities that have posted progress without predecessors being completed (Out of Sequence Progress) shall be allowed only by the case-by-case approval of the Design Professional. The Design Professional may direct that changes in schedule logic be made to correct any or all Out of Sequence Work.

3.07 NEGATIVE LAG(S)

- A. Lag durations contained in the schedule shall not have a negative value.

3.08 DEFINITION OF, AND CONDITIONS RELATING TO FLOAT

- A. Float is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date, of any activity in the schedule. Total float is defined as the amount of time any given activity or path of activities may be delayed before it will affect the project completion time.
- B. Float is not time for the exclusive use or benefit of the Contractor and shall be used in the best interest of completing the project on time.
- C. Extensions of time for performance required under the General Conditions pertaining to equitable time adjustment will be granted only to the extent that the equitable time adjustment exceed total float in the activity or path of activities affected at the time approval was issued for the change.
- D. Use of float suppression techniques such as preferential sequences, special lead/lag logic restraints, extended activity times, or imposed dates, other than as required by the Contract, shall be cause for rejection of the Construction Schedule and any revisions or updates.

3.09 CONSTRUCTION SCHEDULE

- A. The Construction Schedule, defining the Contractor's planned operations for project shall be submitted for approval within 10 calendar days after Notice to Proceed is issued. The approved Construction Schedule shall be used for payment purposes and the basis for measuring Contractor progress.
 - 1. Paper copies shall be provided in color on minimum 11" x 17" paper and an electronic version in Adobe PDF format.
- B. The Construction Schedule shall show the sequence and interdependence of activities required for complete performance of the work, beginning with Contractor's receipt of the Notice to Proceed and concluding with the date of Final Completion of the Contract. The Construction Schedule shall show all activities in workdays, with allowance for holidays and the effects of normal weather conditions on outside work.
- C. The Construction Schedule shall comply with all limits imposed by the Scope of Work, with all contractually specified intermediate milestones and completion dates, and with all constraints, restraints, or sequences included in the Contract.
- D. The Construction Schedule network (graphic presentations) and computer tabulations, the Resource Loading curve and the Contractor's signatures shall be submitted to the Design Professional for acceptance. Additionally, the Contractor shall submit one (1) copy of the data, containing the resource loaded Construction Schedule.
- E. The following computer-generated reports shall be required as part of the Construction Schedule submittals:

1. Activity ID Report
2. Total Float/Early Start Report
3. Logic Report
4. Resource Report
5. Coding Dictionary

F. The schedule network (graphic presentation) shall include:

1. Activity ID
2. Activity Description
3. Original Durations
4. Remaining Durations
5. Early Start and Finish Dates
6. Baseline Start and Finish Dates
7. Total Float
8. Percent Complete

G. Schedule Review and Comments

1. Comments made by the Design Professional on the Construction Schedule during review shall not relieve the Contractors from compliance with the requirements of the Contract Documents.
2. Following the Contractor's receipt of the Design Professional's review comments, the Contractors shall correct the schedule to identify missing activities and relationships relevant to the Scope of Work. No time extensions will be granted to complete activities not initially included in the Contractor's Construction Schedule.
3. To the extent that there are any conflicts between the approved Construction Schedule and the requirements of the Contract Documents, the Contract Documents shall govern.

H. Resubmittal of Construction Schedule

1. Should the Design Professional reject the Construction Schedule, the Contractor shall comply with the Design Professional's direction and resubmit the Construction Schedule and all associated submittals within five (5) calendar days.

3.10 PERIODIC CONSTRUCTION SCHEDULE UPDATES

A. The following computer-generated reports in hard copy and electronic shall be required as a part of the monthly update thereof as a condition precedent to the receipt of progress payments under the Contract.

B. The Contractor's monthly narrative report is to include:

1. Activities started in the month (with actual start dates).
2. Activities completed during the month (with actual start and completion dates).
3. Activities in progress (with estimated remaining durations).
4. Activities scheduled to start in the next month (with estimated start dates).
5. A list of approved logic changes.
6. A list of proposed logic changes, new activities, and deleted activities.
7. Recommendations for adjusting the Construction Schedule to meet milestone

completion and Contract completion dates (include why the schedule needs adjusted, e.g., change order, weather, contractor resources, etc.).

a. Construction Contract Adjustment for Unexpected Adverse Weather

- i. Contract adjustment is justified when the number of actual adverse weather workdays exceeds the expected number of adverse weather work days over the life of the project.
- ii. The number of actual adverse weather workdays and related construction task(s) are to be reported on a monthly basis at the last Progress Meeting of the month as a condition of Payment Application approval.
- iii. The Design Professional is to verify with documentation the actual adverse weather workdays reported by the Contractor.
- iv. The calculation of the difference between the actual adverse working weather days and expected adverse weather working days is to be reported at the first Progress Meeting of the month by the Design Professional.

8. Attach copies of the Contractors' weekly schedule reports.

C. The Contractors graphic presentation of the schedule is to include:

1. Activity ID.
2. Activity Description.
3. Original Durations.
4. Remaining Durations.
5. Early Start and Finish Dates.
6. Baseline Start and Finish Dates.
7. Total Float.
8. Percent Complete.
9. The schedule shall be sorted by Early Start and Total Float and should show both the early schedule and the target schedule.

D. Computer generated reports are to include:

1. Activity ID Report.
2. Total Float/Early Start Report.
3. Logic Report.
4. In Progress or Planned to Start Report.
5. In Progress or Planned to Finish Report.
6. Resource Report.

3.11 WEEKLY PROGRESS REPORT

- A. The Contractor shall provide a Weekly Progress Report to the Design Professional. The Weekly Progress Report shall be based on the most recent Construction Schedule update and shall summarize only those activities scheduled to begin or are in progress during the week before and for next two (2) weeks.

3.12 STANDARD ACTIVITY CODING DICTIONARY

- A. The Contractor shall submit, with the Construction Schedule, a coding scheme that shall be used throughout the project for all activity codes contained in the schedule. The coding scheme submitted shall list the values for each activity code category and translate those values into project specific designations. For example, A Responsibility Code Value, "ELE", may be identified as "Electrical Subcontractor". Activity code values shall represent the same information throughout the duration of the contract. Once approved with the Preliminary Project Schedule Submission, changes to the activity coding scheme shall be approved by the Design Professional.

3.13 DATA

- A. The preliminary, approved, and update Construction Schedules shall be provided in the form of electronic files.
- B. File Medium:
 - 1. Submit data on media acceptable to the Design Professional.
- C. File Name:
 - 1. The Contractor shall insure that each file submitted has a name related to the schedule data date, project name, or contract number. The Contractor shall develop a naming convention that will ensure that the names of all the files submitted are unique. The Contractor shall submit the file naming convention to the Design Professional.

3.14 APPROVED CHANGES VERIFICATION

- A. Only Construction Schedule changes that have been previously approved by the Design Professional shall be included in the schedule submission. The narrative report shall specifically reference, on an activity-by-activity basis, all changes made since the previous period and relate each change to documented, approved schedule changes.
- B. The Contractor shall prosecute the work in accordance with the approved Construction Schedule. Out of sequence construction, defined as a change from the Construction Schedule in the Contractor's actual operation requires prior approval from the Design Professional.
- C. Upon the approval of a change order or the issuance of a unilateral change order by the Owner the agreed upon change order activities, activity durations, logic and impacts shall be reflected in the next schedule submittal by the Contractor.
- D. No change to the approved activities, original activity durations, logic, interdependencies, milestones, planned sequence of operations, or resource loading of the Construction Schedule shall be made without prior approval from the Design Professional. If the Contractor desires to make a change to the approved Construction Schedule, the Contractor shall request permission from the Design Professional in writing, stating the reasons for the change as well as the specifics, such as the proposed changes in activities, original activity durations, logic, interdependencies, milestones, planned sequence of operations, or resource loading of the baseline Construction Schedule. The Design

Professional shall respond within 14 calendar days after the receipt of the Contractor's request.

- E. If the Design Professional considers the Construction Schedule change requested by the Contractor to be a major change, it may require the Contractor to revise and submit for approval, without additional cost to the Owner, all of the affected portions of the network diagrams, and any schedule reports, or construction equipment reports deemed necessary to show the probable effect on the entire project. The proposed network revision and required reports shall be submitted to the Design Professional within five (5) calendar days after the Design Professional notifies the Contractor that the requested revision is a major change. Only upon the approval of the requested change by the Design Professional may it be reflected in the next Construction Schedule update submitted by the Contractor.
- F. A change will be considered of a major nature if the time estimated for an activity or sequence of activities is varied from the original plan to the degree that there is reasonable doubt that the Contract Completion date or milestones will be met, or if the change impacts the work of other Contractors at the job site. Changes to activities having adequate float may be considered as minor changes, except that an accumulation of minor changes may be considered a major change when such changes affect the Contract Completion date or milestones.

3.15 SCHEDULE REPORTS

- A. The format of each activity for the schedule reports listed below shall contain:
 - 1. Activity ID Number(s).
 - 2. Activity Description.
 - 3. Original Duration.
 - 4. Remaining Duration.
 - 5. Early Start Date.
 - 6. Early Finish Date.
 - 7. Baseline Start Date.
 - 8. Baseline Finish Date.
 - 9. Total Float.
 - 10. Actual Start and Actual Finish dates shall be printed for those activities in progress or completed.
- B. Activity ID Report: A list of all activities sorted according to Activity ID number and then sorted according to Early Start Date. For completed activities the Actual Start Date shall be used as the secondary sort.
- C. Logic Report: A list of preceding and succeeding activities for every activity in ascending order by activity number and then sorted according to Early Start Date. For completed activities the Actual Start Date shall be used as the secondary sort.
- D. Total Float Report: A list of all activities sorted in ascending order of total float. Activities which have the same amount of total float shall be listed in ascending order of Early Start Dates.

3.16 NETWORK DIAGRAM (GRAPHIC PRESENTATION)

- A. The network diagram is required on the preliminary, baseline and monthly schedule submissions. The network diagram shall depict and display the order and interdependence of activities and the sequence in which the work is to be accomplished. The Design Professional will use, but is not limited to, the following conditions to review compliance with this paragraph:
1. Continuous Flow: Diagrams shall show a continuous flow from left to right. The Activity ID, description, original duration, remaining duration, early start and finish dates, target start and finish dates, total float and percent completed shall be shown on the diagram.
 2. Project Milestone Dates: Dates shall be shown on the diagram from start of any project, any contract required interim completion dates, and contract completion dates.
 3. Critical Path(s): The Critical Path(s) shall be clearly shown.
 4. Banding: Activities shall be grouped to assist in the clear understanding of the activity sequence. Typically, this flow will group activities by category of work, work area and/or responsibility.

END OF SECTION 01 32 16 – CONSTRUCTION SCHEDULE

01 33 00
SUBMITTAL PROCEDURES

PART 1 – GENERAL**1.01 SUMMARY**

- A. This section includes administrative and procedural requirements for submittals required for performance of the Work.

1.02 GENERAL REQUIREMENTS

- A. Electronically submit to Design Professional submittals as required by the project specifications.
- B. Submittals shall be submitted within ten (10) calendar days after the Notice to Proceed. The Contractor shall submit a list of any submittals that cannot be submitted within ten (10) calendar days after the Notice to Proceed for Design Professional review and approval. The list shall include the reason the submittal cannot be submitted and a schedule indicating when the submittal will be submitted.
- C. The time required for the submittal process has been allotted for in the Construction Time. Additional time will not be considered in the event the Contractor does not complete the submittals in a timely manner.
- D. Review of shop drawings and product data by Design Professional will be general in nature and does not relieve Contractor in any way of responsibility for proper detailing of designs furnished by Owner, satisfactory construction, compliance with Contract Documents and applicable codes, or for errors or omissions of any kind in final Work.
- E. Contractor to maintain one (1) hard copy of all submittals at the project site within the field office that is to be available for use by the Design Professional.

1.03 DEFINITIONS

- A. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display-independent fixed-layout document format.
- B. File Sharing Program (FSP): An internet based electronic file storage service to enable sharing and collaboration of project documents.
- C. Non-Technical Submittals: submittals that do not pertain to technical aspects of the project but are to be submitted to the Design Professional for review.
- D. Informational Submittals: submittals that are provided to the Design Professional for information purposes only and do not require action by the Design Professional.
- E. Technical Submittals: submittals that pertain to technical aspects of the project and are to be submitted to the Design Professional for review.

F. Review Notations

1. "Approved": Fabrication, manufacture, or construction may proceed on the basis that the submitted item is in conformance with the design concept and the contract documents.
2. "Approved as Noted": Fabrication, manufacture, or construction may proceed after making the noted corrections to satisfy compliance with the design concept and/or contract documents. If additional submittals are required to be submitted, no fabrication, manufacture, or construction may proceed without the additional submittals required. Submit additional submittals promptly.
3. "Rejected": No fabrication, manufacture, or construction may proceed. Make revisions and/or submit new documents as indicated.

1.04 NON-TECHNICAL SUBMITTALS

- A. Worker's Compensation Certificate: Submit a current Worker's Compensation Certificate for the Contractor and all subcontractors.
- B. General Liability Insurance: Submit proof of general liability insurance in the limits required in the Contract Documents. The Owner and Design Professional shall be listed as additional insureds.
- C. Installation Floater and/or Builders Risk: Submit proof of Installation Floater and/or Builders Risk Insurance in the limits required in the Contract Documents.
- D. Subcontractor Insurance Certificates: Submit proof of general liability insurance in the limits required in the Contract Documents.
- E. List of Subcontractors: Submit List of Subcontractors.
- F. Schedule of Values: Submit a schedule of values that includes a thorough breakdown of the work. Each work item shall include a line item for the material and labor portion of the work.
- G. Project Schedule: Submit a detailed critical path method (CPM) construction schedule broken down per unit area indicating the durations, critical path, and overall project duration.

1.05 INFORMATIONAL SUBMITTALS

- A. Contractor Site Safety Plan: Submit the Contractor's Site Safety Plan.
- B. Drug-Free Workplace Program: Submit written evidence that the Contractor and subcontractors are enrolled and are in good standing in the OBWC Drug-Free Workplace Program or similar approved program.
- C. Permit: Submit a copy of the permit, if required by the local jurisdiction.
- D. Contractor Emergency Contact Information: The Contractor shall submit contact numbers for the lead on-site personnel, project manager, and subcontractor(s) that can be utilized in

case of an after-hours emergency.

1.06 TECHNICAL SUBMITTALS

- A. Shop Drawings: Submit each shop drawing as required by the technical specifications.
- B. Product Data: Submit copies of the manufacturer's product data, bulletins, specifications, installation instructions, product test reports, etc. as required by the technical specifications.
- C. Qualification Data: Prepare and submit written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of Design Professionals and Owners, and other information specified.
- D. Material/Product Certificates: Prepare and submit written statements on manufacturer's letterhead certifying that material complies with requirements.
- E. Manufacturer Certificates: Prepare and submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.
- F. Material Test Reports: Prepare and submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
- G. Field Test Reports: Prepare and submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements.
- H. Maintenance Data: Prepare and submit written and graphic instructions and procedures for operation and normal maintenance of products and equipment.
- I. Delegated Design: Where required by the specifications, the Contractor shall engage a Professional Engineer to perform the design of the specified system. The sealed drawings and calculations shall be submitted for review. All delegated design submittals shall also include a Certificate of Professional Liability Insurance with a minimum limit of \$1,000,000 included with the submittal.

1.07 SAMPLES

- A. Where Specifications require samples to be submitted, submit three (3) samples of materials.
- B. One (1) sample will be returned to Contractor when approved.
- C. Install materials matching approved samples.

1.08 MOCK-UP MODELS

- A. Where Specifications require mock-up models, submit and/or construct one (1) mock-up

model. If the mock-up is constructed on-site and not permitted to be incorporated into the work, it shall be placed in an area designated by the Design Professional and shall not be removed until completion of the work and instructed to do so by the Design Professional.

- B. Make changes to mock-ups until accepted by Design Professional.

1.09 SUBMITTAL PROCEDURE

- 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 the Design Professional's FSP.
- B. Electronic submittals will only be accepted in an unchangeable electronic format such as pdf. File formats such as MS Word (.doc or .docx), MS Excel (.xls or .xlsx), AutoDesk, AutoCAD (.dwg or .dwt), are considered unacceptable as the original file submitted could be accidentally altered from the originators intended document. These file types will be rejected by the Design Professional.
- C. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp prior to submitting.
- D. Each submittal to bear Contractor's stamp. This shall indicate that the Contractor has reviewed the submittals and they are in compliance with the Contract Documents. Any submittals that are not in compliance with the Contract Documents shall be clearly indicated on the submittal cover page along with an explanation of why it is being submitted.
 - 1. Stamp shall be made electronically on the Submittal Transmittal Form in the assigned location. Stamp shall include name of reviewer, time, and date stamp was applied.
 - 2. Submittal Transmittal Form shall not be printed out to allow for a physical stamp to be applied and then scanned back into electronic format.
- E. All submittals shall include the Submittal Transmittal Form included in the specification (Section 00 62 11). The Contractor shall include all project and submittal information as outlined on the Submittal Transmittal Form. All submittals shall be named utilizing the file format outlined in Section 00 62 11 – Submittal Transmittal Form. The Submittal Transmittal Form will be provided to the Contractor in electronic format by the Design Professional.
- F. Electronic submittals shall be compiled, to the greatest extent, from original electronic formats. Scanning of physical or paper copies shall be kept to a minimum to maintain smaller file sizes and clarity of documents.
- G. Each submittal shall be submitted as one combined file inclusive of the Submittal Transmittal Form and all documents required by the contract documents for that submittal. A PDF binder format shall be used and not a portfolio format.
- H. Electronic submittals shall not have document restrictions applied by the Contractor that would prevent the Design Professional from reviewing or annotating the Submittal Transmittal Form or other submittal documents.

I. File Sharing Program (FSP)

1. Contractor shall, at the Design Professional's direction, log-in and create an account on the FSP.
2. Contractor will be given access to submittal folders on the FSP. The Contractor will have permission to view and download files from folders at the Design Professionals discretion. The Contractor will have permission to one folder to upload submittals.
3. The project will have multiple folders used for the management of project documents. The primary folder to be used for Submittals is labeled 10 Submittals. This folder contains the following sub-folders:
 - a. 10.01 Sample Forms: Forms provided by Design Professional for use by the Contractor to prepare the electronic submittals. Folder will contain documents such as the Submittal Transmittal Form, Sample Submittal Transmittal Form, Sample Manufacturer Letters, and other forms or sample letters.
 - b. 10.02 Submittals Checklist: Will contain a submittal checklist prepared and maintained by the Design Professional. Checklist will be used to track the progress of submission by the Contractor and Review by the Design Professional. Checklist will be used for file naming of the submittals per the direction given by the Design Professional on the Sample Submittals Transmittal Form.
 - c. 10.03 Submitted: Folder will be used by the Contractor to upload submittals for the Design Professional's review. Submittals shall only be submitted by this method.
 - d. 10.04 Reviewed: This folder will contain submittals reviewed by the Design Professional. Contractor will have access to this folder to view or download the Design Professionals Reviewed Submittals.
 - e. 10.05 Miscellaneous: Folder will be used by Design Professional to place miscellaneous files such as Informational Submittals.

J. Incomplete submittals may be returned without review with a request to resubmit when complete.

K. The Contractor shall allow 14 calendar days for the initial and each subsequent review that may be necessary. No extension of Contract Time will be authorized because of failure to transmit submittals enough in advance of the work to permit processing.

1.10 SUBMITTAL REVIEW PROCEDURE

- A. General: The Design Professional will not review submittals that do not bear the Contractor's approval stamp and will return them without action.
- B. Design Professional will review each submittal, make marks to indicate corrections or modifications required, and return it.
- C. Partial submittals are not acceptable, will be considered non-responsive, and will be returned without review.
- D. Submittals not required by the Contract Documents will not be reviewed and may be

discarded.

1.11 PROJECT CLOSE-OUT SUBMITTALS

See Section 01 78 39 Project Record Documents for Close-Out Submittal requirements.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION 01 33 00 – SUBMITTAL PROCEDURES

01 40 00
QUALITY REQUIREMENTS

PART 1 – GENERAL**1.01 GENERAL**

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements for Contractor quality control on the project.
- B. Specific quality control requirements for individual construction activities are specified in the Sections that govern those activities. Requirements in those Sections may also cover production of manufactured products.
- C. Specified tests, inspections, and related actions do not limit Contractor's quality control obligations to comply fully with the Contract Document requirements in all regards.
- D. Provisions of this Section do not limit the requirements for the Contractor to provide quality control services required by the Contract Documents or the authority having jurisdiction.
- E. The following quality issues are addressed in detail in this Section:
 - 1. Quality Control.
 - 2. Quality Assurance.
 - 3. Testing Agency.
 - 4. Testing.
 - 5. Inspections.
 - 6. Pre-Installation Meetings.
 - 7. Mock-ups.

1.03 DEFINITIONS

- A. Quality Control: Quality Control shall be the sole responsibility of the Contractor, unless specifically noted otherwise. The Contractor shall be responsible for all testing, coordination, start-up, operational checkout and commissioning of all items of work included in the project, unless specifically noted otherwise. All costs for these services shall be included in the Contractor's cost of work and general conditions.
- B. Quality Assurance:
 - 1. Quality Assurance is performed by the Owner or their delegated representatives. These procedures may include observations, inspections, testing, verification, monitoring, and any other procedures deemed necessary to ensure compliance with the Contract Documents.
 - 2. The Contractor shall cooperate with and provide assistance to the Owner for all

aspects of this endeavor. This shall include providing ladders, lifts, scaffolds, lighting, protection, safety equipment, and any other devices and/or equipment (including operators if required) deemed necessary by the Owner to access the work for observation or inspection.

1.04 TESTING AGENCY

- A. Testing Agency Qualifications: An agency with the experience and capability to conduct testing and inspecting indicated and specializes in types of tests and inspections to be performed.
- B. Owner may employ services of independent testing agencies to perform certain specified testing, as it deems necessary.
- C. The Contractor shall employ and pay for services of an independent testing agency to perform all specified testing requiring an independent agency, unless noted otherwise.
- D. Employment of agency in no way relieves the Contractor of the obligation to perform work in accordance with requirements of Contract Documents.

1.05 TESTING

- A. Where specific testing is specified in a technical section of the specifications or indicated in the Contract Documents, the Contractor shall bear all costs of such tests unless they are specifically stated to be paid by the Owner.
- B. Testing specifically identified to be conducted by Owner will be performed by an independent entity and will be arranged and paid for by the Owner unless otherwise indicated in the Contract Documents. Should the test return unacceptable results, the Contractor shall bear all costs of retesting and re-inspection as well as the cost of all material consumed by testing, and replacement of unsatisfactory material and/or workmanship.
- C. The Owner's Designated Representative (ODR) will schedule the Owner's testing services unless otherwise directed in writing by the Owner. The Contractor is required to coordinate with the ODR to facilitate timeliness of such testing services.

1.06 INSPECTIONS

- A. It is the intent of the Contract Documents that all work be subjected to inspection and verification of correct operation prior to 100% payment of the line item(s) pertaining to that aspect of the Work.
- B. The Contractor shall incorporate adequate time for performance of all inspections and correction of noted deficiencies into the Work Progress Schedule for the project.
- C. During the course of construction, the Owner, Design Professional, and/or other Owner representatives may visit the site for observation of the work in place. The Contractor shall provide all necessary equipment for safe access to the work to be inspected or observed. This requirement shall extend to all Owner personnel and their representatives. Some of these inspections will be informal and some will require formal notification by the Contractor.

The following are typical project inspections:

1. Informal daily review of project conditions by the Design Professional's Project Representative, Owner, and/or Design Professional. When considered appropriate, results of these reviews will be documented via Observation Report. In addition to cooperating with, and providing safe access for these parties, the Contractor shall provide a system of tracking all Observation Reports, describing items noted and resolution of each item. This report shall be reviewed as necessary, at least on a monthly basis.
 2. Where specified, concealed space inspections are to be formally scheduled in advance through the Design Professional by submitting written notification at least five (5) working days in advance.
- D. On systems/equipment requiring a manufacturer's representative to verify installation/operation, the Contractor is required to perform a thorough check-out of operations with the manufacturer's representatives prior to requesting formal inspection by the Owner. Notify the ODR, in advance, as to when the manufacturer's representative is scheduled to arrive.
- E. Inspection of individual equipment and/or system(s) must be accomplished prior to requesting Substantial Completion Inspection for any area affected by that equipment and/or system.
- F. For any requested inspection, the Contractor shall make prior inspection to ensure that items are ready for inspection and acceptance by the Owner and/or Design Professional. The Contractor will be responsible for any and all costs incurred by Owner and/or Design Professional resulting from a review or inspection that was scheduled prematurely.
- G. The Contractor shall coordinate the work and schedule the inspections in advance so as not to delay the work. All major inspections should be indicated on the Work Progress Schedule for advance planning and the Contractor should allow a minimum of five (5) working days to confirm schedule of requested inspections with Owner and Design Professional.
- H. The Contractor shall list and track all punch list items. The punch list shall be kept up-to-date reflecting status of work in place and inspections on the project. Copies of this populated and updated matrix shall be supplied to Design Professional and ODR for use during the course of the project.

1.07 PRE-INSTALLATION/CONSTRUCTION MEETINGS

- A. The Design Professional will schedule and conduct meetings to review the installation of major systems/equipment on the project.
- B. The Contractor shall ensure attendance of the installing subcontractor, manufacturer and/or supplier (if appropriate), supporting subcontractors involved in the installation and any other parties involved in the work being reviewed.
- C. Each party shall be prepared to discuss in detail the staging, installation procedure, quality control, testing/inspection, safety and any other pertinent items relating to the work being reviewed. Submittal approval shall be a prerequisite for the meeting.

1.08 MOCK-UPS

- A. Before installing portions of the Work requiring mock-ups, build mock-ups for each form of construction and finish required, using materials indicated for the completed work.
- B. Build mock-ups in location and of size indicated or, if not indicated, as directed by Design Professional. The mock-up may be work in place that is intended to remain, unless otherwise directed by the Design Professional.
- C. Notify Design Professional and Owner five (5) working days in advance of dates and times when mock-ups will be constructed.
- D. Demonstrate the proposed range of aesthetic effects and workmanship. Include anticipated repairs in mock-up, such as stone veneer.
- E. Obtain Design Professional's and Owner's approval of mock-ups before starting work, fabrication, or construction.
- F. Maintain mock-ups during construction in an undisturbed condition as a standard for judging the completed work.
- G. Demolish and remove mock-ups when directed by Design Professional.

PART 2 – PRODUCTS – NOT USED**PART 3 – EXECUTION – NOT USED**

END OF SECTION 01 40 00 – QUALITY REQUIREMENTS

01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 – GENERAL

1.01 GENERAL

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specifications Sections, apply to this Section.
- B. Temporary installations shall comply with federal, state and local codes and regulations and with utility company requirements.
- C. Materials may be new or used, but adequate in capacity and safe for conditions.

1.02 SUMMARY

- A. This Section includes requirements for temporary utilities.
 - 1. Contractor is responsible for installing and maintaining such temporary facilities.
 - 2. At the completion of the Work, or when requested to, the Contractor shall remove all temporary utilities and related temporary work.
- B. Temporary facilities include, but are not limited to, the following:
 - 1. Temporary utilities include, but are not limited to, the following:
 - a. Rooftop Electric: Furnished by Contractor.
 - b. Water: Furnished by Owner, within limited quantities (i.e. existing hose connections). Large quantities of water usage must be approved by Design Professional and Owner and may require payment for such usage.
 - c. Sanitary Facilities, including drinking water.
 - 2. Support facilities include, but are not limited to, the following:
 - a. Storage containers.
 - b. Parking for construction personnel.
 - c. Waste disposal services.
 - d. Scaffolding, ladders, and other access equipment.
 - 3. Security and protection facilities include, but are not limited to, the following:
 - a. Temporary project signs.
 - b. Temporary fire protection.
 - c. Safety and health regulations for construction.
 - d. Storm drainage protection.
 - e. Security enclosure.
 - f. Tree and plant protection.
 - g. Fume and odor control.
 - h. Dust and dirt control.
 - i. Interior protection and cleaning.

1.03 SUBMITTALS

- A. Use of Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

1.04 QUALITY ASSURANCE

- A. Standards: Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241.
- B. Comply with codes and regulations regarding potable drinking water, sanitation, dust control, fire protection, and other temporary controls.

1.05 PROJECT CONDITIONS

- A. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:
 - 1. Keep temporary services and facilities clean and neat.
 - 2. Relocate temporary services and facilities as required by progress of the work.

PART 2 – PRODUCTS**2.01 EQUIPMENT, FACILITIES AND CONTROLS**

- A. General:
 - 1. Provide incombustible construction for offices, shops, and sheds located within 30 feet of building lines. Comply with NFPA 241.
 - 2. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion and when authorized by Design Professional.
- B. Site Enclosure Fence:
 - 1. Chain Link Fencing: Minimum 2 inch, 0.148 inch thick, Galvanized steel, chain link fabric fencing; minimum 6 feet high with Galvanized steel pipe posts at approximately 6' on-center. The fencing shall have ballasted, moveable stands at asphalt pavement areas. Non-pavement areas shall have posts embedded in the ground.
 - 2. Construction Site Fencing: Plastic fencing; 4 feet high with support posts spaced at approximately 6' on-center to prevent displacement. At grass areas, the posts shall be embedded in the ground.
 - 3. Locate where indicated on the project drawings. Install in a manner that will prevent people, dogs, and other animals from easily entering the site except by gate entrances.
 - 4. Provide gates in sizes and at locations necessary to accommodate the construction operations. Close and lock after construction hours.
- C. Sanitary Facilities: Provide temporary toilet, wash facilities, and drinking water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.

1. Disposable Supplies: Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
 2. Toilets: Provide self-contained single occupant units of chemical type; vented; fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material. Provide separate facilities for male and female personnel.
 3. Wash Facilities: Install wash facilities supplied with potable water at locations as required for personnel who handle materials that require wash up. Dispose of drainage properly. Supply cleaning compounds appropriate for each type of material handled.
- D. Drinking Water Fixtures: Provide potable water, including paper cup supply.
- E. Project Identification and Temporary Signs: Do not permit installation of unauthorized signs except as required by law.
1. Prepare temporary signs to provide directional information to construction personnel and visitors.
 2. Install signs where indicated on project drawings.
 3. Post construction permit at the field office, as required by building department.
- F. Storage Containers: Provide non-combustible storage containers, as necessary, to store moisture and/or temperature sensitive materials.
- G. Temporary Stairs: Provide temporary stair towers where ladders are not adequate. The bottom 6' of the stair tower shall be enclosed with a lockable door in order to prevent unauthorized access. During non-construction times, the stair tower access door shall be locked.
- H. Storm Drainage Protection: Where the existing soil is disturbed by construction or construction traffic, provide temporary filters and silt fences around storm drain inlets in order to filter out excessive soil, construction debris, and other contaminants that might clog or pollute the waterways.
- I. Contractor Parking: Parking for the Contractor's employees will be assigned by the Design Professional and only this area may be used.
- J. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate to support loads and to withstand exposure to traffic during construction period. Locate temporary roads and paved areas as indicated on Drawings.
1. Provide and maintain access to fire hydrants, free of obstructions.
 2. Provide means of removing mud from vehicle wheels before entering streets.
 3. Designated existing on-site roads may be used for construction traffic.

PART 3 – EXECUTION

3.01 GENERAL

- A. General:

1. Locate facilities where they will serve Project adequately or as directed by Owner or Design Professional.
 2. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed.
 3. The Owner will make all reasonable effort to provide a suitable and undisturbed space to the Contractor; however, if it becomes necessary at any time during progress of work to move temporary storage facilities, field offices, equipment or materials, the Contractor shall relocate them at no cost to the Owner.
- B. Motor Vehicles: All motor vehicles shall be driven slowly with extreme caution, obeying all posted traffic signs.
- C. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- D. Tree and Plant Protection: Install temporary fencing located as indicated or outside drip line of trees to protect vegetation from construction damage. Protect tree root systems from damage, flooding, and erosion.
- E. Site Security Fence: The contractor set-up area where the job trailer, equipment storage, etc. are located shall be enclosed with a 6' high chain link fence.
- F. Material Storage Areas: Material only storage areas shall be enclosed with construction site fencing.
- G. Work Areas and Traffic Paths: All work areas and equipment traffic paths that are not located on existing roadways shall be fenced off with construction site fencing to prevent pedestrian traffic from unknowingly entering the construction area. The fencing shall be maintained until construction work (inclusive of any lawn remediation) in that area is complete and there are no hazards.

3.02 TRAFFIC CONTROLS

- A. Comply with requirements of authorities having jurisdiction.
- B. Protect existing site improvements to remain including curbs, pavement, and utilities.
- C. Maintain access for firefighting equipment and access to fire hydrants.

3.03 FIRE PROTECTION

- A. Comply with fire insurance and governing regulations.
- B. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent for exposures.
 1. Provide adequate number of fire extinguishers to protect the Work.

- C. Temporary Fire Protection: Provide and maintain temporary fire-protection of quantity and type needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.

3.04 EXISTING UTILITY PROTECTION

- A. Existing utility lines and structures indicated or known, and utility lines constructed for this Project shall be protected from damage during construction operations.
- B. Damage to existing utility lines or structures not indicated or known shall be reported immediately to the Design Professional and affected utility.

3.05 FUME AND ODOR CONTROLS

- A. Prior to using any construction material containing solvents or other material causing objectionable odors, the Contractor must contact Owner to coordinate the protection of the air intakes in order to prevent fume or odor entry into the building. This protection could involve the following:
 - 1. Shut down air intake dampers.
 - 2. Shut down HVAC unit and cover intake vents with plastic sheeting.
 - 3. Installing activated carbon filter material over the HVAC intake vents.
 - 4. Re-locate equipment producing odors downwind from the air intake vents.
- B. If fumes or odors enter the building, the Contractor must work with the Owner to provide necessary ventilation to remove the fumes and odors from the building.

3.06 DUST AND DIRT CONTROLS

- A. The Contractor shall control blowing dust, dirt, and refuse.
- B. The Contractor shall remove accumulations of dust, dirt, litter, and debris.
- C. The Contractor shall prevent roofing debris and dirt entry at roof deck terminations, holes, roof penetrations, roof deck replacement areas, etc. Upon the completion of the work, the contractor shall clean any construction related debris from the interior of the building, including from above ceiling tiles upon completion of the work.
- D. The Contractor shall provide protection of equipment and personnel during operations creating dust from drilling, chipping, etc.
- E. The Contractor shall prevent debris, dust, or dirt from entering the building or the buildings HVAC system. The Contractor must contact Owner to coordinate the protection of the air intakes in order to prevent fume or odor entry into the building. This protection could involve the following:
 - 1. Shut down air intake dampers.
 - 2. Shut down HVAC unit and cover intake vents with plastic sheeting.
 - 3. Installing filter material over the HVAC intake vents.
 - 4. Re-locate equipment producing dust, dirt, or debris downwind from the air intake vents.

- F. The Contractor shall be responsible for any damage related to debris, dust, or dirt entry into the building or building HVAC system.

3.07 PROTECTION OF WORK AND BUILDING

- A. The Contractor shall be responsible for the protection of the building interior and its contents from rain at holes or penetrations through the building envelope during work.
- B. The Contractor shall be responsible to prevent the leakage of adhesives and other construction related liquids from entering the building through holes or openings in the deck. The Contractor shall seal any holes or openings to prevent the migration of construction related liquids from entering the building.
- C. The Contractor shall be responsible for the protection of the building exterior and grounds from Contractor operations. When hoisting materials and/or removing materials, cover exterior walls including all items in work area with tarps or other required protection. An enclosed chute is required for the removal of the existing materials, from second story and higher locations, whenever building height is in excess of one (1) story.
- D. The Contractor shall provide protection to the grounds, walks, etc. from construction related materials and material handling equipment by placing plywood sheeting, tarps, or other required protection in and adjacent to the work area.
- E. The Contractor shall prevent dirt and debris entry into the building at openings and terminations in the roof decking (i.e. pipe penetrations, expansion joints, walls, etc.).

3.08 INTERIOR PROTECTION AND CLEANING

- A. Interior Protection: The Contractor shall provide interior protection in area where there are no drop ceilings and fine dust and dirt can fall onto and damage the Owner's furnishings.
 - 1. The installation of interior protection shall be coordinated with the Owner's personnel.
 - 2. The interior protection shall consist of drop clothes or plastic sheeting draped over the furnishings.
 - 3. The Contractor shall coordinate with the Owner's Representative when sensitive/heat producing electronic equipment must be protected so that the interior protection is installed in a manner to not cause overheating of the equipment or the equipment is shutdown.
- B. Interior Cleaning: The Contractor shall sweep all areas where there is no drop ceiling or penetrations and/or terminations in the roof deck to remove any construction related dirt and debris.
 - 1. At areas of deck replacement, the Contractor shall vacuum the top of the drop ceiling tile to remove large accumulations of dirt and debris that enters the building.
 - 2. At areas of roof deck penetrations and terminations, the Contractor shall inspect and vacuum the top of the drop ceiling tile to remove accumulations of dirt and debris that enters the building.

- C. All interior protection and cleaning operations shall be completed in a manner to minimize interference to the Owner's operations.
- D. Interior protection shall be removed and interior cleaning completed as soon as possible.

3.09 SCAFFOLDING, LADDERS, AND OTHER ACCESS EQUIPMENT

- A. The Contractor shall provide all necessary scaffolding, ladders, runways, and manlift equipment. All of this equipment shall be assembled and maintained in accordance with all applicable safety codes and standards. The Contractor shall provide the Owner and Design Professional with access to all work and storage areas.

3.10 EXISTING ROADWAYS AND SIDEWALKS

- A. The Contractor shall not utilize paved areas that are indicated to be light-duty pavement. This includes areas only designed for passenger vehicle parking and playgrounds. Any traffic that is required over these areas must be minimized and any damage shall be repaired by the Contractor at no cost to the Owner.
- B. When the Contractor is utilizing normal or heavy duty pavement areas, the Contractor shall verify the equipment does not exceed the weight capacity of this pavement. In addition, the Contractor shall install protection for the pavement in areas where damage could occur (i.e. dumpster locations, excessive equipment traffic, etc.). Any damage to the pavement due to excessive traffic or overweight equipment shall be the responsibility of the Contractor to repair. Normal wear and tear will not be required to be repaired.
- C. The Contractor shall not traverse existing sidewalks as they are not typically designed for vehicular traffic. Any traffic that is required over these areas must be minimized and any damage shall be repaired by the Contractor at no cost to the Owner.

3.11 EXISTING BUILDING LOAD LIMITS

- A. During warm weather conditions, materials shall not be loaded or placed on the structure in a manner that the loads exceed the live load capacity of the building, as determined by the local building code or ASCE 7.
- B. During winter-time conditions (when snow can occur), materials shall not be stored on the roof surface. During heavy snow events, rooftop storage could overload the structure causing the potential for damage or collapse.

3.12 OPERATION, TERMINATION, AND REMOVAL

- A. Maintenance: Maintain temporary facilities in good operating condition until removal. Protect from damage caused by weather.

END OF SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

01 74 00
CLEANING AND WASTE MANAGEMENT

PART 1 – GENERAL**1.01 GENERAL**

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes cleaning requirements during construction operations.

1.03 SAFETY REQUIREMENTS

- A. Hazards Control
1. Store volatile wastes in covered metal containers and remove from premises daily.
 2. Prevent accumulation of wastes that create hazardous conditions.
 3. Provide adequate ventilation during use of volatile or noxious substances.
- B. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
1. Do not burn or bury rubbish or waste materials on Project site.
 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 3. Do not dispose of wastes into streams or waterways.

PART 2 – PRODUCTS**2.01 MATERIALS**

- A. Cleaning Agents: Use only cleaning materials recommended by manufacturer of surface to be cleaned.
1. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finish surface.
 2. Use cleaning products that comply with the allowable VOC level as permitted by the authority having jurisdiction.

PART 3 – EXECUTION**3.01 DAILY/PROGRESS CLEANING**

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements of NFPA 241 for removal of combustible waste materials

- and debris.
- 2. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer of fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Contract Completion.
- G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Contract Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.
- K. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted or finished surfaces.

END OF SECTION 01 74 00 – CLEANING AND WASTE MANAGEMENT

01 78 39
PROJECT RECORD DOCUMENTS

PART 1 – GENERAL

1.01 GENERAL

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents.

1.03 CLOSEOUT SUBMITTALS

- A. Record Drawings (As-Built Drawings): Complying with the following:
 - 1. Number of Copies: Submit one (1) set of marked-up Record Prints and a PDF electronic file of the scanned printed to the Design Professional, unless otherwise noted.
- B. Warranties: As required by each technical section.
- C. Operating and Maintenance Instructions: Provide written maintenance instructions for each system specified.
- D. Manufacturer's Inspection Reports: Provide manufacturer's final inspection report for each system specified that requires a manufacturer's inspection.
- E. Asbestos-Free Certificate
- F. Certificate of Substantial Completion
- G. Contractor's Certificate of Insurance
- H. Performance and Payment Bond Form

PART 2 – PRODUCTS

2.01 PROJECT RECORD DOCUMENTS

- A. General: Refer to the requirements of the General Conditions.
- B. Record Documents, General
 - 1. The Contractor shall maintain at the jobsite one (1) copy of Drawings, Project Manual, addenda, final shop drawings, approved submittals, change orders, field orders, other contract modifications, and other documents submitted by the Contractor, in compliance with various Sections of the Project Manual.

C. Record Drawings

1. The Contractor shall update "As-Built Drawings" on separate set of Drawings set-aside especially for this purpose on the job. Drawings shall incorporate changes made in the Work during the construction period. Such changes shall be indicated at the time they occur.
 - a. Accurately record information in an understandable drawing technique.
 - b. Record data as soon as possible after obtaining it. Record and check markup prior to enclosing concealed installations.
2. Each of these drawings shall be clearly marked "As-Built Drawings"; maintained in good condition; available for observation by Design Professional; and shall not be used for construction purposes. Mark these drawings to show the actual installation where the installation varies from the installation shown originally. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Items required to be marked include, but are not limited to, the following:
 - a. Dimensional changes to the Drawings.
 - b. Significant detail not shown in the original Contract Documents including Change Orders or Field Work Orders.
 - c. The location of underground utilities dimensionally referenced to permanent surface improvements.
 - d. The location of internal utilities concealed in building structures, referenced to visible and accessible features of the structures.
 - e. When elements are placed exactly as shown on Drawings, so indicate; otherwise show changed location.
 - f. Revisions to details shown on the Drawings.
 - g. Depths of foundations below the first floor.
 - h. Revisions to routing of piping and conduits.
 - i. Actual equipment locations.
3. Keep drawings current. Do not permanently conceal work until the required information has been recorded. Mark record prints of Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where shop drawings are marked, show cross-reference on Drawings location.
 - a. Mark record sets with red, or color that may be photocopied, erasable colored pencil. Use other colors (no blue) to distinguish between changes for different categories of the work at the same location.
 - b. Note Field Work Orders, alternate numbers, change order numbers, and similar identification.
4. Prior to request for Final Payment, the Contractor shall organize the "As-Built Drawings" into manageable sets, bind the sets with durable paper cover sheets, certify to the accuracy of the "As-Built Drawings" by signature thereon, and deliver the "As-Built Drawings" to the Design Professional.

- D. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Drawings with Design Professional and Owner. When authorized, prepare a full set of corrected digital data files of the Record Drawings, as follows:

1. Format: Adobe PDF

PART 3 – EXECUTION

3.01 RECORDING AND MAINTENANCE

- A. Recording: Maintain one (1) copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents: Store Record Documents in the field office apart from Contract Documents used for construction. Do not use 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 Record Documents to Design Professional's reference during normal working hours. The Design Professional may review the Record Document to assure they are being properly updated prior to each payment request.

3.02 CLOSE-OUT SUBMITTALS

- A. The contractor shall prepare and submit one (1) 3-ring binder with the following binder tabs:
1. **Title Page:** Include project name.
 2. **Contractor Information:** Include Contractor and subcontractor name, project manager/superintendent, address, phone number and email address.
 3. **Contract Bond:** Include a copy of Contract Bond.
 4. **Insurance Certificates:** Include a copy of the Contractor's insurance certificate.
 5. **Material Information:** Include product data sheets for the primary material utilized in the project.
 6. **Color Selection Information:** Include a summary of the colors selected for each material that required a color selection.
 7. **Warranties:** Include a copy of each warranty required for the project.
 8. **Operating and Maintenance Instructions:** Include a copy of the operating and maintenance instructions for each system installed as part of the project.
 9. **Asbestos Free Certificate:** Include a completed copy of the Asbestos Free Certificate included in the project specifications.
 10. **Manufacturer's Inspection Reports:** Include a copy of all manufacturer's inspection reports.
 11. **Final Lien Waivers:** Include a copy of the Contractor's Final Waiver & Release Affidavit.
 12. **Project Forms:** Include a copy of the Asbestos Free Certificate and Certificate of Substantial Completion.
 13. **Change Orders:** Include a copy of each change order that was authorized for the project.
 14. **As-Built Drawings:** The Contractor shall include the As-Built Drawings.
 15. Based on the project, additional tabs may be required by the project administrator

for additional project that may be required for specific projects.

- B. Electronic Copy: In addition to the one (1) hard copy of Project Record Documents, the contractor shall also provide an electronic copy. The electronic copy shall be in Adobe PDF format. The files shall be organized into folders with each tab name. The electronic copy shall be submitted by CD or USB drive.

END OF SECTION 01 78 39 – PROJECT RECORD DOCUMENTS

02 41 19
SELECTIVE DEMOLITION

PART 1 –GENERAL

1.01 GENERAL REQUIREMENTS

- A. The provisions of the General Conditions and the Sections included under Division 1, General Requirements, are included as a part of this Section as though bound herein.

1.02 SCOPE OF WORK

- A. Work of this section includes the removal and disposal of demoed components of the project.
- B. Items covered by this specification section (Removal and Disposal):
1. Existing Roof Systems
 2. Deteriorated Steel Roof Decking
 3. Deteriorated Wood Blocking
 4. Metal Roof Flashings and Metal Edging
 5. Abandoned Curbs
 6. Exterior Insulation and Finish System (EIFS)
 7. Lightning Protection System

1.03 RELATED SECTIONS

Division 1	General Requirements
02 82 20	Asbestos Remediation – Hazardous Materials Abatement
02 82 21	Asbestos Remediation – Summary of Work
02 82 22	Asbestos Remediation – List of Contractor Requirements
02 82 23	Asbestos Remediation – Codes and Regulations
02 82 24	Asbestos Remediation – Temporary Facilities
02 82 25	Asbestos Remediation – Work Practices
02 82 26	Asbestos Remediation – Abatement Monitoring
02 82 27	Asbestos Remediation – Asbestos Abatement Procedures
02 82 28	Asbestos Remediation – Forms
02 82 29	Asbestos Remediation – Project Closeout
03 51 13.01	Cementitious Wood Fiber Roof Deck Repair
05 30 23.01	Steel Deck Repair
06 10 53.01	Rough Carpentry for Roofing
07 22 16	Roof Board Insulation
07 24 19	Water-Drainage Exterior Insulation and Finish System
07 31 13	Asphalt Shingles
07 53 23	Ethylene-Propylene-Diene-Monomer (EPDM) Roofing
07 62 00	Sheet Metal Flashing and Trim
07 92 00	Joint Sealants
26 41 13	Lightning Protection for Structures
32 92 00	Turfs and Grasses

1.04 REUTILIZED MATERIALS

- A. The following items shall be assumed to be fully salvageable and reusable:

1. Lightning protection system down conductors.

1.05 SUBMITTALS

- A. Shop Drawings:

1. Indicate demolition and removal sequence, equipment to be used, location and construction of barricades, fences and temporary work structures.

- B. Proposed Dust Control and Noise Control Measures:

1. Submit statement or drawing that indicates the measures proposed for use, proposed locations, and proposed timeframe for their operation. Identify options if proposed measures are later determined to be inadequate.

- C. Schedule of activities

- D. Existing Condition Survey:

1. Submit written and photographic documentation of any pre-existing damage in the work area.

1.06 REGULATORY REQUIREMENTS

- A. Conform to all applicable codes for demolition of structures, safety of adjacent structures, dust control and disposal of materials.
- B. Obtain required permits from authorities with jurisdiction.
- C. Notify affected utility companies, if any, before starting work, and comply with their requirements.
- D. Do not close or obstruct any roadways, sidewalks or hydrants without permits.
- E. Conform to applicable regulatory procedures when discovering hazardous or contaminated materials.

1.07 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from the site and legally disposed of.
- B. Historic items, relics, and similar objects of interest or value to Owner that may be encountered during selective demolition remain Owner's property. Carefully remove and salvage each item or object in a manner to prevent damage and deliver to Owner.

PART 2 – PRODUCTS - N/A

PART 3 - EXECUTION

3.01 INSPECTION

- A. Contractor shall survey the site for any pre-existing damage. Contractor shall document (written and photographic) any pre-existing damage and submit to the Design Professional prior to any on-site work.
- B. Contractor shall survey the site prior to any demolition work and examine drawings and specifications to determine the extent of the work.
- C. Contractor shall examine the existing structure for any conditions that would affect the integrity of the remaining structure. Notify the Design Professional in writing of conditions detrimental to the Work.

3.02 PREPARATION

- A. Provide, erect, and maintain temporary barriers and safety devices to protect workers and public as needed.
- B. Protect the existing building and roof to prevent damage to any part of the building that is not to be demolished.
- C. Mark location of utilities.
- D. Contractor to submit all required notifications required by local, state, and federal governing authorities related to the asbestos removal.

3.03 DEMOLITION REQUIREMENTS

- A. Conduct demolition to minimize interference with adjacent structures or building occupants.
- B. Contractor to comply with requirements all local, state, and Federal authorities having jurisdiction for the removal of the asbestos containing materials.
- C. Contractor to handle and dispose of asbestos containing roofing materials as required by all local, state, and Federal regulatory requirements.
- D. Cease operations immediately if any structure not to be demolished appears to be in danger. Notify the Design Professional immediately.
- E. Conduct operations with minimum interference to public or private accesses. Maintain sufficient egress and access at all times.
- F. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon or limit access to their property.
- G. Sprinkle Work with water to minimize dust. Provide hoses and water connections for this purpose. The use of water will not be permitted when it will result in, or create,

hazardous or objectionable conditions, such as ice, flooding, or pollution.

- H. Protect building and contents from weather damage during and after demolition, until roof is replaced per the project specifications and drawings.
- I. Contractor assumes full responsibility for providing a watertight building envelope.
- J. A five (5)-day notice to building occupants and Design Professional is required before any demolition may proceed.
- K. No explosive devices may be used for demolition.

3.04 DEMOLITION

- A. Remove demolished materials from the site daily. Materials that cannot be removed daily shall be stored in areas specified by the Design Professional.
- B. Do not burn or bury materials on site. Leave site in clean condition.
- C. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads.
- D. Return elements of construction and surfaces that are to remain to condition existing before selective demolition operations began.
- E. Remove any temporary fences or barricades.

3.05 REMOVAL OF EXISTING ROOF SYSTEM

A. GENERAL

- 1. Remove existing roof in areas designated on project drawings.
- 2. Remove all materials specified for removal, inclusive all wet and/or damaged roofing and flashing, including cants, wood blocking, underlayment materials, and currently concealed, damaged flashing materials. All existing roof system removal shall be in accordance with Regulatory Requirements.
- 3. The Contractor shall be responsible for the protection of the building interior and its contents from rain at holes or penetrations through the roof system during work. When roof deck is being replaced, he shall also be responsible for the normal protection of Owner's furnishing and equipment by covering all items in the work area with drop cloths or other required protection.
- 4. The Contractor shall prevent dirt and debris entry at holes or terminations in the roof decking. Upon the completion of the work, the Contractor shall vacuum up any debris that enters the building, including from above the drop ceiling).
- 5. The Contractor shall provide protection of equipment and personnel during operations creating dust and debris from removal process.

6. The Contractor shall be responsible for the protection of the building exterior and grounds from the Contractor's operations. When hoisting materials and/or removing materials, cover exterior walls, including all items in the work area, with tarps or other required protection. An enclosed chute or lift with a debris container is required for the removal of the existing roof system materials, from the roof to the ground level, whenever building height is in excess of 14'.
7. Removed portions of the existing roof system shall be replaced with materials in accordance with this specification. At the discretion of the roofing Contractor, the Contractor can either remove existing roof in its entirety and provide, at no additional charge to the Owner, a temporary roof system inclusive of appropriate flashings or remove/replace existing roof in sections to assure continued watertightness.
8. Remove all rubbish from the Owner's premises each day in compliance with all applicable local regulations. Dumpsters shall be placed at locations per Owner Representative's instructions. Rubbish placed in approved roof spot locations for future removal shall be placed out of view of the general public and shall be confined within tarps and/or plastic bags stored in a secure manner to prevent wind-blown debris.
9. After the existing roof system has been removed, the contractor shall remove any remaining debris from the steel roof deck flutes (or the deck surface) by vacuuming or sweeping.

B. REMOVAL SCHEDULE

1. Contractor shall outline to Design Professional prior to commencement of work the removal and replacement schedule for each roof section. Removal/replacement of the roof system shall be closely coordinated with Design Professional and building occupants.
2. It is critical that the removal and replacement process takes into consideration factors such as weather conditions, conditions of the existing roofing system(s), installation method of the new roofing system, productivity of the crew, material availability, etc.
3. Removed portions of the old roof system must be replaced in its entirety prior to commencing with additional roofing removal.
4. Upon commencement of roofing work, tie-in and/or cut-offs shall be removed. Where incompatible substances were used for construction of a tie-in, care shall be taken to prevent any contact of the incompatible component and the roof membrane. Any contaminated sections shall be removed and replaced.
5. Contractor shall coordinate removal/re-roofing to minimize construction traffic over completed areas, out of scope roof areas, or existing roof systems. Where traffic over completed roof areas, out of scope roof areas, or existing roof systems is necessary, Contractor shall construct traffic path consisting of plywood boards anchored and/or weighted to prevent movement by winds. The Contractor shall monitor any traffic path areas for damage and repair, as

necessary, to prevent leaks.

6. In cases where loading/unloading has to be done on completed roof, Contractor shall designate one (1) area for this work. The area shall be adequately protected by use of plywood upon completion of the work and removal of the loading platform, Contractor together with the Design Professional shall inspect the roof area. At the discretion of the Design Professional, damaged or contaminated portions of the roof system shall be replaced.

3.06 REMOVAL OF EXISTING EXTERIOR INSULATION AND FINISH SYSTEM (EIFS)

A. GENERAL

1. EIFS work that is required over a roof system requires the installation of protection material to protect and prevent damage to the roof system from any required scaffolding and foot traffic.

If the EIFS work is being performed in conjunction with a roof replacement project, the EIFS work should be coordinated to be completed prior to the roof replacement to eliminate the chance of damage to the new roof system.

For roof areas that are to remain after the completion of the EIFS work, the temporary protection shall be comprised of plastic sheeting, rigid foam insulation, and wood sheathing or thick rubber mats, as a minimum to protect the roof surface. All protection materials must be secured in order to prevent displacement by winds or storms.

Upon the completion of the EIFS work, the roof surface shall be inspected and any construction related damage repaired at no cost to the Owner.

2. Remove existing EIFS in areas designated on project drawings.
3. Where specified, remove the existing windows, to allow for the installation of new flashing materials.
4. Remove all materials specified for removal, inclusive of exterior gypsum sheathing. Any existing flashings shall be removed to prevent a build-up of material or potential adhesion issues with new flashing materials. All existing EIFS removal shall be in accordance with Regulatory Requirements.
5. The Contractor shall be responsible for the protection of the building interior and its contents from rain during the EIFS system work. Contractor shall prevent insulation and other debris from entering HVAC louvers and other ventilation openings.
6. The Contractor shall prevent dirt and debris entry at holes or penetrations in the wall. Upon the completion of the work, the Contractor shall vacuum up any debris that enters the building.
7. The Contractor shall provide protection of equipment and personnel during operations creating dust and debris from removal process.

8. Remove all rubbish from the Owner's premises in compliance with all applicable local regulations. Dumpsters shall be placed at locations approved by Owner Representative's.

B. REMOVAL SCHEDULE

1. Contractor shall outline to Design Professional prior to commencement of work the removal and replacement schedule for each EIFS section. Removal/replacement of the EIFS system shall be closely coordinated with Design Professional and building occupants.

3.07 LIGHTNING PROTECTION SYSTEM

- A. Prior to the start of the removal of the lightning protection system, the Contractor shall notify the Design Professional in writing of any pre-existing damage or conditions that could affect the performance of the system upon re-installation.
- B. The existing lightning protection system within the steep sloped roof area shall be removed and a new lightning protection system installed.

At the high side of the steep sloped roof system, a lightning protection system was recently installed. This system shall be removed, as necessary to install the new roof system, and re-installed.

The Contractor shall replace components damaged or lost during the removal process.

END OF SECTION 02 41 19 – SELECTIVE DEMOLITION

SECTION 02 82 20

Asbestos Remediation – Hazardous Materials Abatement

PART 1 GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. General Requirements for removal and disposal of hazardous materials and related work.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Section 02 82 21 "Summary of Work".
 - 2. Section 02 82 22 "Contractor Requirements".
 - 3. Section 02 82 23 "Codes and Regulations".
 - 4. Section 02 82 24 "Temporary Facilities".
 - 5. Section 02 82 25 "Work Practices".
 - 6. Section 02 82 26 "Abatement Monitoring".
 - 7. Section 02 82 27 "Asbestos Abatement Procedures".
 - 8. Section 02 82 28 "Forms".
 - 9. Section 02 82 29 "Project Close-out".

1.2 GENERAL REQUIREMENTS

- A. General contract conditions and specifications apply to this section.
- B. The project site is: Daniel Wright Elementary School located at 2335 West Case Road, Dublin, Ohio 43017. The Design Professional is Mays Consulting & Evaluation Services, Inc. located at 201 Pennsylvania Avenue P.O Box 1020, Delaware, Ohio 43015. All communication must go through the Design Professional.
- C. The Asbestos Consultant (Consultant) is Lawhon & Associates, Inc. Consultant is responsible for the NESHAPs assessment and asbestos abatement design (Domanic Martin, APD #60900 exp. 10/07/2025). The Consultant's office is located at 1441 King Avenue, Columbus, OH 43212. Mr. Domanic Martin is the Consultant's Project Manager.
- D. Any reference to third party monitoring, 3rd party consultant clearance testing, etc. is the responsibility of the Contractor and any such fees shall be included in the Contractor's bid for the project. Lawhon is not contracted for any additional services during the construction portion of the project.
- E. The project scope includes the removal and disposal of Category II Non-Friable Asbestos-Containing Materials including but not limited to: faux slate roofing materials. **Abatement notification to the Ohio EPA is not required but is encouraged as a courtesy notification on this project, given the asbestos containing materials are not rendered friable at any point.**

Abatement work may be required to be performed in multiple phases with building areas and associated start/completion dates for those areas determined by GC/ Prime Contractor. Abatement Contractor to coordinate at time of bidding.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 02 82 20

SECTION 02 82 21

Asbestos Remediation – Summary of Work

PART 1 GENERAL

1.1 SUMMARY

- A. This Section includes the Summary of Work and General Notes.
- B. Related Sections: Section 02 82 20 "Hazardous Materials Abatement", Section 02 82 22 "Contractor Requirements", Section 02 82 23 "Codes and Regulations", Section 02 82 24 "Temporary Facilities", Section 02 82 25 "Work Practices", Section 02 82 26 "Abatement Monitoring", Section 02 82 27 "Asbestos Abatement Procedures", Section 02 82 28 "Forms", Section 02 82 29 "Project Close-out".

1.2 SUMMARY OF WORK

The abatement contractor shall remove and dispose of all regulated asbestos-containing materials and other hazardous materials associated with the Replacement of Base Bid Roof Areas of Daniel Wright ES. The listed below quantities are only estimates.

A. ASBESTOS ABATEMENT SCOPE OF WORK

1. TABLE 1: Total estimated asbestos quantities to be abated:

ACM	Approximate Quantities (1)	General Locations (2)
Faux Slate Roofing Material	Base Bid- 13,129 sf	Roof

Table Specific Notes:

- (1) All Quantities are only approximations and should be verified prior to bid.
- (2) Coordinate exact locations of demolition/ abatement with the Prime Contractor and Contract Documents.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 02 82 21

SECTION 02 82 22

Asbestos Remediation – List of Contractor Requirements

<p>List of Contractor Requirements for Pre-Abatement Meeting for Successful Bidder</p>
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- _____ 1. Notify the appropriate regulatory agencies (Not required on this project)
- _____ 2. Provide list (within 5 days after issue of Notice to Proceed) of Contractor's employees who are authorized to sign documents that are binding to the Contractor.
- _____ 3. Copy of License to Conduct Asbestos Abatement Activities
- _____ 4. Name and certification of supervisor.
- _____ 5. Name and certification of company's point of contact.
- _____ 6. Detailed work plan by week and construction schedule.
- _____ 7. Emergency contact list.
- _____ 8. Worker certifications and health records.

These documents are required to be submitted by Contractor prior to commencement of abatement. Please refer to the Contract Documents for other deliverables. Contractor is to have documents in chronological order and submitted digitally.

Documents To Be Posted or Maintained On Job Site (prior to start of work)
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POSTED ON JOB SITE

1. Copy of Ohio EPA Notification.
2. Proof of Worker Training, with a Photostat of a picture ID. attached or Photostat on the Worker Training document.
3. List of Emergency Phone Numbers.
4. List of contact people and phone numbers, i.e. Contractor Foreman, Superintendent, 3rd Party Consultant, etc.
5. U. S. Department of Labor Job Safety & Health Protection Notice, per 29 CFR 1903.2 (a) (1).
6. Copy of Contractor's State License for Abatement.
7. Equal Opportunity Notice.
8. Worker's Compensation Certificate.
9. Proof of Insurance
10. Daily clean up program
11. Fire & Police notification

MAINTAINED ON JOB SITE

1. All Employee Worker Certificates and Health Records.
2. A copy of pre-construction submittals.
3. Logs for: Daily Sign-In, Air Monitoring, and Daily Project Logs.
4. Specification, Drawing and other Contract Documents.
5. Health and Safety Plan.
6. Negative exposure assessments for respirator type used.

List of Abatement Project Close-out Documentation
--

	Date Submitted	Received By (Initials)
1. a. Original landfill receipts (Waste Shipment Records).	_____	_____
b. Copy of waste hauler's manifest.	_____	_____
c. Copy of certificates of recycling/destruction.	_____	_____
2. Certificate of Substantial Completion.	_____	_____
3. Certification from suppliers that all replacement materials are asbestos free (if applicable).	_____	_____
4. Contractor's log of all air samples and results.	_____	_____
5. Contractor's log of daily notes.	_____	_____
6. Contractor's Revisions of all EPA Notifications & Inspections (if applicable)___	_____	_____
7. Copies of inspection reports (if applicable)	_____	_____
8. Copies of worker certifications not submitted prior to abatement	_____	_____

Submit these documents along with the Pre-Abatement and Job site submittals copies to the Owner's Rep. The above mentioned documents are to be submitted at the end of the project digitally with hard copies of the Waste Manifest.

END OF SECTION 02 82 22

SECTION 02 82 23

Asbestos Remediation – Codes and Regulations

PART 1 GENERAL

1.1 SUMMARY

- A. This Section includes governmental regulations and industry standards that are included and incorporated herein by reference and made a part of the specification. This section also sets forth those notices and permits that are known to the Owner and that either must be applied for and received, or which must be given to governmental agencies before start of Work

1.2 CODES AND REGULATIONS

A. General Applicability of Codes, Regulations, and Standards

Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies are bound herewith.

B. Contractor Responsibility

The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, state, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. In addition, the Contractor must provide the Owner, 3rd Party Consultant, and CMR with the names and phone numbers of a plumbing contractor and an electrical contractor who will be available 24 hours per day to enter the work areas in case of emergency. The 3rd Party Consultant will assist the Contractor by arranging for appropriate posting of schedule, listing of contractors, description of protection, and monitoring plans, etc. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, state, and local regulations. The Contractor shall hold the Owner, 3rd Party Consultant and CMR harmless for failure to comply with any applicable work, hauling, disposal, safety, health, or other regulation on the part of himself, his employees, or his subcontractors.

C. Federal Requirements that govern asbestos hazard abatement work include, but are not limited to, the following:

1. OSHA: U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), including but not limited to:

29 CFR 1910.134	Respiratory Protection
29 CFR 1926.20	General Safety and health provisions
29 CFR 1926.21	Safety training and education
29 CFR 1926.23	First Aid
29 CFR 1926.24	Fire Protection
29 CFR 1926.25	Housekeeping
29 CFR 1926.28	Personal Protective Equipment

29 CFR 1926.51 (f)	Washing Facilities
29 CFR 1926.55	Gases, vapors, fumes, dusts, and mists
29 CFR 1926.56	Illumination
29 CFR 1926.57	Ventilation
29 CFR 1926.59	Hazard Communication Standard
29 CFR 1926.62	Lead Construction Standard
29 CFR 1926.103	Respiratory Protection
29 CFR 1926.353	Ventilation: Welding, cutting or heating of metals of toxic significance
29 CFR 1926.300, 301, 302	Hand and power tools
29 CFR 1926.451	Scaffolding
29 CFR 1926.500, 502, 503	Fall Protection

2. DOT: U.S. Department of Transportation, including but not limited to:

49 CFR 171 and 172	Hazardous substances
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3. EPA: U.S. Environmental Protection Agency (USEPA) including, but not limited to:

40 CFR 61, Subpart A	National Emission Standard for Hazardous Air Pollutants
40 CFR 61, Subpart M	National Emission Standard for Hazardous Air Pollutants: Amendments to Asbestos Standard
40 CFR 763.117 and 763.302	Notification Requirements: Reportable Quantity Adjustments
40 CFR 260, 261, 262, 263 and 264	Resource Conservation and Recovery Act (RCRA)
40 CFR 745 (Proposed)	Lead Based Paint Activities: Training, Certification, and Work Practice Requirements
40 CFR 763 Subpart E	Asbestos-Containing Materials in Schools: Final Rule and Notice

4. State Requirements that govern asbestos abatement work include, but are not limited to, the following:

- a. OEPA: Ohio Environmental Protection Agency, including but not limited to:

Ohio Administrative Code, Chapter 3745-20	Emission Control Rules
Ohio Administrative Code, Chapter 3745-22	Licensing Rules

- b. Certifications

1. The Contractor must be certified by the Ohio Environmental Protection Agency to perform asbestos abatement activities as required by Chapter 3710 of the Ohio Revised Code.

2. The Contractor's Supervisor must be certified by the Ohio Environmental Protection Agency as a Contractor Supervisor.
3. All of the contractor's employees must be certified by the Ohio Environmental Protection Agency as either Asbestos Workers or Contractor Supervisors.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 02 82 23

SECTION 02 82 24

Asbestos Remediation – Temporary Facilities

PART 1 GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Temporary facilities and use and provision of water, electrical services.

1.2 TEMPORARY FACILITIES

A. Materials and Equipment

1. Water Service – The Owner shall supply water and pay for cost of water used. Contractor shall provide decontamination facilities. Contractor shall provide constant hot and cold water for decontamination showers, at all times.
2. Electrical— The Owner shall supply electricity and pay for cost of energy used. The Contractor is responsible to verify that electricity is available at a nearby source, and may tie into existing building systems. Contractor shall be responsible for restoring the system to its original condition upon completion of the work. Comply with all applicable NEMA, NECA, and UL standards and regulations for materials and layout of temporary electrical service. Contractor shall provide hardwired ground fault circuit interrupters with a minimum 100 amp rating for each work area or floor of a work area. All electrical power used for this project shall be provided via these units.
3. First Aid—Comply with governing regulations and recognized recommendations within the construction industry. Contractor shall be responsible for providing first aid supplies for employees. Further, the contractor must have at least one person on site that has been trained in the administration of first aid.
4. Fire Extinguishers—Provide Type “A” fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other locations, provide type “ABC” dry chemical extinguishers. One fire extinguisher, sealed in polyethylene, of the “ABC” type shall be placed within the work area for each 2000 sq. ft. of floor space in a location that would be easily accessible during an emergency.
5. Decontamination Facilities—Contractor is to provide these facilities as required and approved by 3rd Party Consultant.
6. Telephones—Contractor is responsible for providing mobile phones. For emergency purposes, a phone must be operable on site.
7. Documents—Contractor shall maintain and post all required documents on site.
8. Office—If necessary, the Contractor shall maintain an office, an office will not be provided by the owner. Contractor shall allow space for 3rd Party Consultant to maintain office on-site.

9. Supply Storage— Contractor shall not be permitted to store any products or equipment inside the building unless prior approval from the Owner is granted. The GC and Owner are not responsible for site security; contractor may store supplies/ equipment at site at their own risk.
10. Restrooms—Coordinate on-site restroom facilities with the GC/ Owner.
11. Parking/Access— Parking and access location on site of Contractor vehicles and waste dumpster(s) shall be limited to areas designated by Owner.
12. The Contractor is responsible for storage of asbestos-containing waste in properly labeled, and bagged waste, which must be stored in a lockable and secure, enclosed (closed-top) storage container at a location designated by GC and/or Owner.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 02 82 24

SECTION 02 82 25

Asbestos Remediation – Work Practices

PART 1 GENERAL

1.1 SUMMARY

- A. This Section includes requirements for abatement monitoring.
- B. Related Sections: Section 02 82 20 "Hazardous Materials Abatement", Section 02 82 22 "Contractor Requirements", Section 02 82 23 "Codes and Regulations", Section 02 82 24 "Temporary Facilities", Section 02 82 25 "Work Practices", Section 02 82 26 "Abatement Monitoring", Section 02 82 27 "Asbestos Abatement Procedures", Section 02 82 28 "Forms", Section 02 82 29 "Project Close-out", and Hazardous Materials Assessment Reports

1.2 WORK PRACTICES

- A. Respiratory Protection
 - 1. At a minimum, a power-air purifying respirator shall be used for the following activities:
 - a. Removal of all friable ACM.
 - b. Until phase PCM sampling achieves <0.01 fibers per cubic centimeter (f/cc).
 - 2. At a minimum, a half-face respirator shall be used for the following activities:
 - a. Pre-cleaning activities.
 - b. Load out activities outside of work area.
 - c. After phase PCM clearance, contractor will be allowed to use a half-face for tile and mastic removal (HEPA/organic).
- B. Use of Water
 - 1. Contractor shall provide constant hot and cold water for showers, at all times, from an adjustable fixed head at the shower. Also ample soap, shampoo, disinfectant and towels for use by employees and authorized visitors, as needed, must be available.
 - 2. The clean room, airlock and shower shall be disinfected daily and no accumulations of used towels, suits, street clothes and supplies shall be allowed in any decontamination unit and/or work area.
 - 3. No water shall be allowed to accumulate within the shower. All shower water must be promptly filtered through a filtration unit capable of removing particles 3.0 microns or larger. Contractor must document filter pore size and 3rd Party Consultant reserves the right to acquire effluent samples for analysis. In the event that analysis indicates contamination of effluent (any asbestos particles observed longer than 5.0 microns by TEM) the Contractor shall bear the costs of all testing and shall immediately correct any problems and document that the corrections have been effective.

4. In the event that a leak occurs which releases water from the work area into any clean area all work shall immediately stop until the leak is repaired and all liquid cleaned up. Cleaning shall include mopping, wet-wiping, and HEPA vacuuming as necessary to ensure collection of all asbestos fibers.
- C. Work Area Isolation (Becomes Required if Material Becomes Friable)
1. Only full-weight polyethylene shall be used to construct work area enclosures. Polyethylene used to cover critical barriers and floors shall be 6-mil and polyethylene used to cover wall surfaces shall be 4-mil. In addition, reinforced polyethylene shall be used in areas of high traffic and areas where the use of scaffolds or other equipment may be reasonably assumed to cause damage to sensitive flooring materials.
 2. Work area enclosures shall be erected so as to remain intact during the duration of the abatement project. Methods to be used include, but are not limited to, anchoring polyethylene with wire or wooden blocks, attaching anchoring strips to the surface of walls, using prefabricated 2" x 4" panels with polyethylene stapled to the frame, etc. The 3rd Party Consultant reserves the right to approve or deny use of materials or devices used to anchor polyethylene. The Contractor assumes all responsibility for damage caused to the building surfaces or structure due to construction and operation of the abatement enclosure.
 3. Electrical extension cords and air filtration ducting shall be suspended off the floor.
 4. Air filtration units shall be placed strategically to promote the most effective circulation of air within the work area. Air filtration ducting shall be inspected daily for leaks.
 5. Emergency exits shall be clearly labeled and shall be constructed so as to provide easy exit from the containment in event of an emergency. Red paint shall be used to denote the locations of emergency exits, fire extinguishers and hazardous areas within the work area. Contractor's employees shall be trained in emergency procedures.
 6. Respiratory protection is required for all activities involving asbestos. Respiratory protection is to be initiated during the start of work area isolation.
 7. A wood partition or wall (1/2 inch) shall be utilized when:
 - a. When a decontamination unit, with permission from the 3rd Party Consultant and Owner, is established outside, the structure must be able to be locked and secured.
 - b. When the work area barriers/containment border non-work areas that are of significant space and are occupied.
 - c. For all AFD exhaust ports to the outside of the building
 8. An approved decontamination unit, containment, and securable waste storage shall be in place for removal of items or fixtures that are adjacent to asbestos. No exterior decontamination units will be permitted, unless the 3rd Party Consultant and/or Owner gives permission.
 9. Install at least one clear one square foot 1/4 inch Plexiglas viewing ports into each work area.

D. Removal of ACM

1. The floor of the work area shall be kept free of unnecessary equipment, supplies and debris. All contaminated materials shall be promptly bagged and removed from the work area according to established removal methods. The contractor shall not allow asbestos-containing materials to dry out or collect on floors or other surfaces. Bagged ACM shall not accumulate within the work area. No contaminated materials are to be stored outside of the building except in a sealed, secure, temporary storage trailer.
2. The contractor shall use amended water during all asbestos removal operations. All ACM must be thoroughly wetted prior to and during removal and shall be wetted during bagging operations. No dry brushing, sweeping or cleaning of asbestos or asbestos contaminated materials shall occur. Contractor cannot wet roofing once removed. Any leaks inside the building are the responsibility of the contractor.
3. The use of protective clothing including gloves and boots is required for demolition of ceiling materials.
4. If a breach of containment occurs, removal activities are to cease until containment integrity has been restored.

E. Disposal of ACM

1. All ACM must be disposed of in approved containers at an approved, licensed facility. Wastes are to be disposed of at an USEPA and OEPA approved landfill.
2. Open top dumpsters will not be permitted at either site. All waste must be placed in secure, closed top dumpsters, regardless of EPA classification.
3. Proper decontamination procedures for removing ACM wastes from the work area are required.
4. All ACM wastes are to be removed from the structure and properly disposed of by the end of each work shift.
5. All ACM bagged wastes will be labeled, counted by Contractor, and be entered into daily logs.
6. Proper documentation of all ACM wastes generated as a result of this project must be delivered to the 3rd Party Consultant in a timely fashion.
7. On-site disposal container must be lockable and closed top.

F. Cleaning of Work Area

1. HEPA filters and pre-filters shall be inspected by the Contractor on a daily basis. This includes filters on air filtration devices and HEPA equipped vacuum cleaners. All vacuums in the work area must have and maintain HEPA attributes.
2. Disposable cloths are to be used for final cleaning procedures. Cloths are to be used only once and disposed of. Rinse water shall be changed frequently.
3. All liquids sprayed within the work area shall be delivered through an airless sprayer. Spraying with garden hoses and pressurized sprayers is prohibited.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 02 82 25

SECTION 02 82 26

Asbestos Remediation – Abatement Monitoring

PART 1 GENERAL

1.1 SUMMARY

- A. This Section includes requirements for abatement monitoring.
- B. Related Sections: Section 02 82 20 "Hazardous Materials Abatement", Section 02 82 22 "Contractor Requirements", Section 02 82 23 "Codes and Regulations", Section 02 82 24 "Temporary Facilities", Section 02 82 25 "Work Practices", Section 02 82 26 "Abatement Monitoring", Section 02 82 27 "Asbestos Abatement Procedures", Section 02 82 28 "Forms", Section 02 82 29 "Project Close-out", and Hazardous Materials Assessment Report (Attachment A).

1.2 ABATEMENT MONITORING

- A. Air Monitoring Required by OSHA Regulations
 - 1. If the transite becomes friable during removal, the Contractor must perform air monitoring in the work area to comply with OSHA regulations for his employees. Results shall be posted no later than 48 hours after sample collection.
 - 2. The Contractor shall keep a log of all monitoring activities he performs and an updated copy of the log shall be submitted to the 3rd Party Consultant at the end of each work week. Failure to provide this data will precipitate an immediate work stop order. A complete log of all air samples and results will be submitted to the 3rd Party Consultant at the completion of the Project. It is the Contractor's responsibility to furnish and maintain all air monitoring equipment. The Contractor shall bear all costs in connection with air sampling and reporting under this section.
 - 3. The 3rd Party Consultant may procure personal air samples of Contractor's or 3rd Party Consultants' employees to measure worker exposure levels. Contractor will cooperate with such monitoring activities.
- B. Air Monitoring of the Work Area (Third Party Consultant)
 - 1. The Contractor will be required to provide containment enclosures with appropriate air circulation for asbestos removal operations. The Contractor must monitor and maintain a minimum negative air pressure of 0.02 inches of water while enclosure is operative. Each containment enclosure shall be equipped with a convenient transparent observation port no smaller than one square foot.
 - 2. The 3rd Party Consultant may perform air monitoring outside of and adjacent to the work areas. If these measurements indicate contamination in excess of 0.01 fibers/cc outside the work area from asbestos hazard abatement work, the 3rd Party Consultant shall notify the Contractor to immediately cease operations until the presence of contamination is verified and the cause of the contamination is identified and corrected, if necessary, to the satisfaction of the 3rd Party Consultant. This correction may involve establishing a more stringent enclosure. The Contractor shall resume asbestos operations only after he receives written authorization from the 3rd Party Consultant.

3. The Contractor shall facilitate and cooperate fully with air monitoring and shall take no action intended to distort or falsify measurements of fiber concentrations and shall not take any action to obstruct air monitoring activities. In the event that the Contractor fails to comply with these provisions, the 3rd Party Consultant has the authority to recommend stopping Contractor's work.
4. All sampling and analytical work shall be in conformance with ORM, NIOSH Method 7400 (A Rules) or by AHERA specified clearance procedures.
5. Copies of records of air monitoring are available for Contractor to review.
6. It is the 3rd Party Consultant's responsibility to furnish and maintain all air monitoring equipment and supplies in connection with his monitoring, testing, and reporting for the Owner. The Owner shall bear all costs in connection with 3rd Party Consultant's air sampling and reporting required, except to the extent that air monitoring indicates contamination caused by Contractor's work, in which case the Contractor will bear all direct and indirect costs associated with these tests.

C. 3rd Party Consultant's Inspection

The contractor's 3rd Party Consultant will conduct inspections regarding: work area isolation structures, decontamination facilities, and protective coverings; worker protection program; Contractor's air monitoring program; proper performance of asbestos hazard abatement work including work area preparation and isolation, stripping, removal, encapsulation, and disposal; conformance with State of Ohio, EPA, OSHA, DOT, and other regulations; and conformance with these Specifications.

The Daily Inspection Form will be completed by the 3rd Party Consultant and copies of the completed form will be transmitted to the Owner weekly.

E. Submittals

All submittals must go to the Owner's Rep for distribution to appropriate parties.

1. Worker Qualification Form

The Contractor shall submit completed Worker Qualification Forms for each employee who performs asbestos hazard abatement work on the project. This form must document that the employee has attended a Worker Protection Program. With this form, the Contractor shall also submit satisfactory evidence that he has complied with OSHA requirements for employee medical surveillance. No worker shall be permitted to work on this project unless a properly documented Worker Qualification Form has been submitted for him.

2. Prompt Submittals

The Contractor's applications for payment will not be processed until all required submittals have been received and approved by the Owner's Rep.

F. Personnel and Facility Protection

1. Protection Instruction

Contractor shall provide written decontamination and work procedures to the 3rd Party Consultant to be followed by the workers, as part of the health and safety plan submitted.

2. Protective Clothing

Contractor shall comply with OSHA regulations for protective clothing. The Contractor shall at all times have sufficient supplies of protective clothing and supplies needed for the proper entrance/exit from the work area.

3. Hygiene Facilities and Practices

Contractor shall comply with OSHA regulations concerning hygiene facilities and practices. Daily inspection and disinfecting of decontamination facilities shall be provided by the Contractor.

4. Emergency Precautions

Prepare a contingency plan for emergencies including fire, accident, power failure, negative pressure system failure, supplied air system failure, or any other event that may require modification or abridgment of decontamination or work area isolation procedures. Include in plan specific procedures for decontamination or work area isolation. Note that nothing in this plan should impede safe exiting or providing of adequate medical attention in the event of an emergency.

5. Facility Security

The Contractor shall comply with OSHA and EPA regulations concerning signage and labeling. All entrances to the work areas shall be clearly labeled to prevent accidental entrance to a regulated area. Labeling shall include signs, stickers, and flagging as appropriate to prevent unauthorized entry to the work site.

G. Disposal

1. Waste containers shall be suitable to receive and retain any asbestos-containing or contaminated materials until disposal at an approved site. The containers shall be labeled in accordance with OSHA, EPA, and DOT regulations. Containers must be airtight and watertight. Shipping manifests shall be submitted to the Owner's Rep as well as disposal documentation.
2. Waste storage containers (dumpsters) must be secured, lockable and completely enclosed (closed-top).
3. Wastes are to be disposed of at an EPA approved landfill that accepts regulated asbestos waste.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 02 82 26

SECTION 02 82 27

Asbestos Remediation – Asbestos Abatement Procedures

PART 1 GENERAL

1.1 SUMMARY

- A. This Section includes requirements for work area isolation, removal, decontamination, encapsulation and disposal of asbestos containing materials, cleaning of work area, and work area clearance.
- B. Related Sections: Section 02 82 20 "Hazardous Materials Abatement", Section 02 82 22 "Contractor Requirements", Section 02 82 23 "Codes and Regulations", Section 02 82 24 "Temporary Facilities", Section 02 82 25 "Work Practices", Section 02 82 26 "Abatement Monitoring", Section 02 82 27 "Asbestos Abatement Procedures", Section 02 82 28 "Forms", Section 02 82 29 "Project Close-out", and Drawings.

1.2 GENERAL SEQUENCE FOR PERFORMING ASBESTOS ABATEMENT ACTIVITIES:

The general sequence for performing asbestos abatement activities will be as follows:

- A. Work Area Isolation (General)
- B. Work Area Isolation (Full Containment)
- C. Removal of ACM
- D. Disposal of ACM
- E. Cleaning of Work Area (decontamination)
- F. Work Area Clearance

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 WORK AREA ISOLATION – GENERAL

- A. All work areas where Class I, II, or III work is being conducted shall be performed within a regulated area. Regulated areas must be of sufficient size to contain all work activities, supplies, equipment, and waste, and must be demarcated in such a manner that a person approaching the work area will not be exposed to the asbestos hazard before they are able to recognize the hazard present.
- B. The 3rd Party Consultant will review the size and layout of the work area for appropriate set-up prior to approval to start work activities in that work area. 3rd Party Consultant will accept or reject the layout based on the requirements stated above.

3.2 WORK AREA ISOLATION (FULL CONTAINMENT) – Only Required For Class I Work or when asbestos of any category is projected to become friable.

- A. All electrical and HVAC systems are to be de-energized at the proper breaker and locked out by the Owner. All electrical power to be used for this project shall pass through a temporary, ground fault circuit interrupt system, installed by a licensed

electrician. This includes all power needed for equipment and machinery inside and outside of all contained areas. No existing electrical service shall be used on this project (this includes existing lighting).

- B. Seal all critical barriers with 1 layer of 6-mil (full weight) polyethylene. This shall include all non-asbestos thermal, doors, windows, HVAC penetrations (grills, etc.), skylights, etc. Smoke alarms and security devices shall be left exposed and functioning unless they are to be removed and replaced. Should the security alarm keypad be in an area designated for full containment the Owner shall relocate unless otherwise specified.
- C. Install HEPA equipped air-filtering devices. The devices shall be placed as to minimize stagnant air within the work area. The number of units shall be such that there is a minimum of (1) 2000 cfm unit for each 20,000 cubic feet of workspace. Units larger than 2000 cfm will count as (1) 2000 cfm unit.
- D. Pre-clean all surfaces, fixtures, and objects within the work area. Cleaning shall be accomplished by HEPA vacuuming and wet wiping all surfaces to remove all dust, dirt and ACM residue and other debris. Any asbestos found in a pre-cleaned area during asbestos removal work or removal of the enclosures shall be assumed as having been caused by the Contractor's work and shall be cleaned at Contractor's expense. All fixtures and objects remaining within the work area are to be sealed with 1 layer of 6-mil polyethylene. The owner will move all moveable items until the abatement has been completed.
- E. Place 1 layer of 6-mil polyethylene over the floor area and seal to the walls. Polyethylene must extend a minimum of 12" up each wall.
- F. Attach 1 layer of 4-mil polyethylene to the walls such that the top edge is sealed to within 6" of the ACM without covering any overspray. The bottom edge should extend to floor level and be sealed to the existing layer of polyethylene.
- G. Attach another floor layer of 6-mil polyethylene to the wall layer. Polyethylene shall extend a minimum of 8" up each wall.
- H. Attach second wall layer of 4-mil polyethylene to the floor layer at floor level. The top edge of polyethylene shall be sealed as closely to the ACM as possible without covering any overspray.
- I. Attach final layer of 6-mil floor covering so that polyethylene extend a minimum 4" up each wall.
- J. Attach non-slip material to stairs to prevent falling. Install 1/4" Plexiglas view port.
- K. Attach polyethylene to a decontamination unit so that an airtight and watertight seal is made between the work area and the decontamination unit.
- L. Prepare the personal decontamination unit by installing a shower (separated from the work area by an airlock) to the clean room area (separated from the shower by an airlock) to the non-regulated area (separated from the clean room by an airlock).

The clean area shall be of sufficient size to allow the non-restricted entry/exit of the entire work crew and shall not be a storage area for abatement supplies.
- M. A separate equipment/waste decontamination unit shall be installed. The equipment/waste decontamination unit shall consist of a separate shower (isolated by airlocks) joined to a separate clean room area (isolated by airlocks). This area is to be

used for the removal of ACM and equipment from the work area and is only to be used for personnel decontamination in the event of an emergency.

- N. Document level of pressure differential of containment. Minimum pressure differential shall be 0.02 inches of water. Daily pressure checks shall be obtained by the Contractor. Continuous monitoring of containment is recommended. Readings shall be taken in areas remote from air filtration devices and sources of makeup air.
- O. The Contractor shall mark all exits from the work area in the event of an emergency. Contractor shall check daily to ensure exit is unlocked or accessible.

3.3 WORK AREA ISOLATION (CATEGORY II NON - FRIABLE ROOFING MATERIALS)

- A. The Contractor shall post warning signs far enough away from the work area to permit an employee to read the sign and take the necessary protective measures to avoid exposure.
- B. The Contractor shall seal, shut down and lock out all heating, cooling, and air conditioning system (HVAC) components that are in, or whose make-up is drawn from, the work area.
- C. The Contractor shall seal all critical barriers with 1 layer of 6-mil (full weight) polyethylene. This will include all non-asbestos thermal, windows, HVAC penetrations (grill, etc.), skylights, etc. inside the work area and immediately below that is within the work area. Security devices shall be left exposed and functioning unless they are to be removed.

3.4. REMOVAL OF ACM

- A. Remove all equipment and fixtures from area to be abated necessary to accomplish the asbestos removal specified. This includes all utility caps, counterflashing, trim, etc. All items removed are to be stored in a location designated by the Owner.
- B. Pre-clean the entire work area.
- C. Spray surfactant on all surfaces within the work area. Allow surfactant to penetrate depth of material to be removed.
- D. Removal of Category I Non - Friable ACM Roofing Materials
 - 1. Remove all equipment and fixtures from area to be abated necessary to accomplish the asbestos removal specified. All items removed are to be stored in a location designated by the Owner.
 - 2. Pre-clean roof to be free and clear of all debris prior to roof material removal.
 - 3. Properly wet all surfaces within the work area. Allow water / surfactant to penetrate depth of material to be removed.
- E. Removal of ACM – Category II Non – Friable Roofing Materials
 - 1. Thoroughly wet prior to and during removal operations. No dry brushing, sweeping, or cleaning of asbestos or asbestos-contaminated materials shall occur.
 - 2. Apply amended water to transite prior to removal. Remove transite roofing in whole pieces; refrain from breaking transite.
 - 3. Contractor shall not allow asbestos-containing materials to dry out or collect on roof or other surfaces.

4. All asbestos containing transite roofing shingles must be wetted with amended water and promptly bagged and safely carried or lowered to the ground. Contractor will not be permitted to drop or throw asbestos containing roofing materials to the ground. Transite shingles shall be placed in re-enforced polybags (Rice Bags) and then black bagged in asbestos warning bags prior to removal from the work area.
5. Perform final cleaning of work area to ensure no debris remains in work area. Utilize HEPA vacuums where applicable.
6. Perform inspection and clearance of work area.
7. Roof felts and plywood decking may be removed after inspection and clearance of work area by 3rd party consultant.

3.5. DISPOSAL OF ACM

- A. All ACM generated from this project shall be properly documented. Detailed disposal documents including information concerning amounts of material, generator information, hauler information, date of generation, and disposal documentation must be processed for all material disposed of as contaminated wastes.
- B. All bagged contaminated materials shall be sufficiently wetted, sealed in airtight containers, and as a minimum shall be sealed within two 6-mil polyethylene bags (one sealed inside the other). No rips or tears shall be visible in the bags, no material may be protruding through the polyethylene, and no visible residue may be visible outside of a container. Contractor shall wash all inner, as well as outer, bags of asbestos-containing material.
- C. All asbestos disposal containers shall be labeled with the current hazardous warning labels and DOT information. The Contractor shall label the inner and outer asbestos bag or container.
- D. All contaminated materials shall be moved from the work area through the waste decontamination unit. There, all bags will be washed and placed into clean bags before being removed from the building.
- E. All ACM wastes shall be transported in enclosed vehicles. The driver compartment must be separated from the cargo compartment. The cargo compartment shall be totally enclosed (closed-top) and lined with 6-mil polyethylene that is to be removed at the dump and disposed of as contaminated.
- F. The cargo compartment of the disposal vehicle shall be cleaned between loads. Cleaning shall include washing, wet-wiping, and HEPA vacuuming.
- G. Wastes are to be disposed of at an EPA Approved landfill capable of accepting regulated asbestos waste.

3.6. CLEANING OF THE WORK AREA

- A. All HEPA filtration devices shall continue to operate during cleaning of the work area. All vacuums inside work area shall utilize HEPA filtration.
- B. Cleaning shall be initiated only after all of the gross ACM has been removed from the work area.
- C. All unnecessary equipment, tools, devices, and supplies shall be properly cleaned and removed from the work area via the equipment decontamination unit.

- D. Cleaning shall start by wetting all surfaces within the work area with clean water. Surfaces shall be wetted from top to bottom.
- E. Removal of ACM residue/debris shall be accomplished with the use of nylon-bristle brushes, nylon scouring pads, towels, sponges, and HEPA equipped vacuums. The use of dry brushing ACM residue is strictly prohibited.
- F. After all residue of ACM has been removed the surfaces are to be cleaned with clear water and wiped with a clean disposable towel. Each towel is to be used only once and then disposed of. Rinse water is to be changed frequently.
- G. Perform inspection and clearance of work area.

3.7 FINAL CLEARANCE/CLEANING PROCEDURES

- A. The following cleanup sequence shall be utilized for this asbestos removal project. It consists of two visual inspections and one cleaning. The sequence is as follows:
 - 1. Gross Removal Inspection—A visual inspection of all surfaces previously containing ACM. The Contractor's head supervisor shall accompany the 3rd Party Consultant's OSM on the visual inspection. All surfaces must have been cleaned thoroughly so no visible debris, film or residues remain.
 - 2. Gross Cleaning—Contractor removes all remaining accumulation and visible ACM, debris, dust from all surfaces. Remove all containers and equipment not necessary for clean-up procedures. Wet clean all surfaces in work area.
 - 3. Gross Cleaning Inspection—A visual inspection of work area to ensure that all surfaces are clean of asbestos-containing materials. The contractor's head supervisor must accompany 3rd Party Consultant's OSM.
 - 4. Upon favorable visual clearance results, the contractor shall remove all remaining polyethylene, equipment, and any supplies or materials from the work area.

3.8 FINAL INSPECTION PROCEDURES

- A. The Initial inspection for the project will occur prior to the removal of the regulated area. The purpose of the initial inspection is to ensure that all ACM has been removed from the project site per the Contract Documents. A list of deficiencies will be developed and prepared by the 3rd Party Consultant (within 24 hours) who will then distribute it to the Contractor. (Note: If the ACM has been removed in accordance with the Contract Documents, the 3rd Party Consultant, upon written notification, can instruct the Contractor to proceed with the removal of the containment.)
- B. The second inspection for the project will occur after the regulated area has been removed. The Contractor will indicate to 3rd Party Consultant when they are substantially complete and ready for an inspection. If the 3rd Party Consultant agrees, the 3rd Party Consultant will provide a list of deficiencies for the project (within 24 hours) and will distribute the list to the Contractor. The 3rd Party Consultant will coordinate, administrate and expedite the completion of the deficiencies. When all items have been satisfied (field-related items and administrative requirements) the 3rd Party Consultant will issue a final completion letter.

END OF SECTION 02 82 27

SECTION 02 82 28

Asbestos Remediation – Forms

FORMS

- A. Project Sign-in sheet.
- B. Waiver of Liability Form for Asbestos Hazard Abatement Visitors.

PROJECT SIGN-IN SHEET

1. Project: Asbestos Abatement – Daniel Wright School
2. Date: _____
3. Contractor: _____

[illegible]

Waiver of Liability Form for Asbestos Hazard Abatement Visitors

Project: _____

WARNING!

This project involves the stripping, removal, and disposal of asbestos. The work area may be contaminated and entry into the work area may result in exposure to airborne asbestos fiber. In addition, there are other hazards typically found on construction sites.

Numerous studies indicate that there is no known safe level of exposure to airborne asbestos. Asbestos is considered a health hazard, and is widely believed to cause or contribute to several diseases, including asbestosis and several types of fatal cancers.

The respiratory protection equipment supplied is believed to provide reasonable protection, and does provide the best protection readily available; it substantially exceeds all current federal requirements. However, it does not provide absolute protection.

WAIVER OF LIABILITY

I understand and agree that Lawhon & Associates, Inc., its individual employees, officers, or owners; Dublin School District, its representatives and employees; and the Contractor, its officers or employees, shall not be held liable for any damages, including incidental and/or consequential damages, regardless of the legal theory asserted, including negligence or strict liability, arising out of my entry into the work area, and including, but not limited to, damage resulting from exposure to airborne asbestos.

Project: _____

Building Owner: _____

Contractor: _____

Field Representative/3rd Party Consultant: _____

VISITOR

Name: _____

Address: _____

Telephone: _____ S.S.# _____ Birth Date _____

Affiliation: _____

Purpose of Visit: _____

Date(s) of Visit: _____

Respiratory Protection Supplied: _____

I certify that I have read and understand the information contained on this form, that I understand that my entry into the work area may result in exposure to airborne asbestos, that such exposure may carry some risk of injury, that I do not have any physical condition that can interfere with the performance of supplied respiratory protection or

which would prohibit or restrict the use of such equipment, and that all my statements and answers on this form are true.

Signed: _____ Date: _____

SECTION 02 82 29

Asbestos Remediation – Project Closeout

PART 1 GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. General Requirements for Project Closeout.

1.2 PROJECT CLOSE-OUT

A. Description of Requirements

1. "Project Close-out" is the term used to describe certain collective project requirements, indicating completion of the Work, that are to be fulfilled near the end of the Contract time in preparation for final acceptance and occupancy of the Work by the Owner, as well as final payment to the Contractor and the normal termination of the Contract.
2. Time of close-out is directly related to issuance of written notice of contract completion; therefore, the time of close-out may be either a single time period for the entire Work or a series of time periods for individual elements of the Work that have been certified as substantially complete at different dates. This time variation, if any, shall be applicable to the other provisions of this section.

B. Prerequisites to Contract Completion

1. General: Complete the following before requesting 3rd Party Consultant to perform final inspection for letter of contract completion, either for the entire Work or for portions of the Work. Include list of known exceptions.
 - a. Include supporting documentation for completion as indicated in these Contract Documents.
 - b. Submit a statement showing an accounting of changes to the Contract Sum to the 3rd Party Consultant.
2. Inspection Procedures: Upon receipt of Contractor's request for inspection, 3rd Party Consultant will either proceed with inspection or advise Contractor of unfulfilled prerequisites. Following initial inspection, 3rd Party Consultant will either certify substantial completion, or will advise Contractor of work that must be performed before the certification will be issued. The 3rd Party Consultant will repeat the inspection when requested and when assured that the Work has been completed.

C. Prerequisites to Final Acceptance

1. General: Complete the following before requesting final inspection for certification of final acceptance, and final payment as required by the General Conditions. List known exceptions, if any, in request:
 - a. Submit the final payment request with final release and supporting documentation not previously submitted and accepted, in compliance with the general Conditions.

- b. Submit a final damages settlement statement, if any, acceptable to the 3rd Party Consultant.
 - c. Submit Affidavit of Waiver of Lien, if any, to the 3rd Party Consultant.
 - d. Submit outstanding asbestos hazard abatement documentation including air sample logs, disposal forms, notifications, and worker qualification forms, to the 3rd Party Consultant.
2. Re-inspection Procedure: The 3rd Party Consultant, Owner and the Owner's Representative will re-inspect the Work upon receipt of the Contractor's notice that the Work resulting from earlier inspections has been completed.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 02 82 29

05 30 23.01
STEEL DECK REPAIR

PART 1 –GENERAL**1.01 GENERAL REQUIREMENTS**

Work of this section, as shown or specified, shall be in accordance with the requirements of the contract documents.

1.02 SCOPE OF WORK**A. GENERAL STATEMENT:**

Coordinate all work closely with Design Professional as it relates to the deck repair. Deck repairs will be performed where and as directed by the Design Professional, and as identified in the project specifications and drawings.

Closely inspect any uncovered condition and alert Design Professional to any condition that may interfere with the performance of the deck repairs.

B. INTENT OF SPECIFICATION:

It is the intent of this specification to provide repairs to deteriorated areas of existing structural steel decking. The repaired decking must be able to support the applicable live and dead loads and provide a suitable substrate for the application of new roof system.

C. DECK REPAIRS:

1. After the removal of the existing roof system and cleaning of the roof deck, the condition of the existing structural steel deck shall be inspected by the Contractor and Design Professional to determine areas where remediation is required.
2. Areas of moderately to severely corroded steel decking shall be replaced with new steel decking on a unit price basis.

The actual quantity of deck replacement is unknown at this time. See Section 01 21 00 Allowances for the quantity of roof deck replacement that is to be included in the base bid. The contract sum will be adjusted up or down based on the actual quantity of deck replaced.

3. Areas of light corrosion shall be prepared and painted. All corrosion removal and painting shall be completed on a unit price basis.

The actual quantity of corrosion removal is unknown at this time. See Section 01 21 00 Allowances for the quantity of corrosion removal and painting that is to be included in the base bid. The contract sum will be adjusted up or down based on the actual quantity of deck replaced.

4. Light Gage Steel Attic Framing: During the FRT plywood sheathing replacement (walls or roof), areas of light corrosion shall be prepared and painted. All corrosion removal and painting shall be completed on a unit price basis.

The actual quantity of corrosion removal is unknown at this time. See Section 01 21 00 Allowances for the quantity of corrosion removal and painting of the light gage attic framing at sheathing replacement areas that is to be included in the base bid. The contract sum will be adjusted up or down based on the actual quantity of deck replaced.

1.03 UNIT PRICE WORK

The following work shall be added or deleted on a unit price basis in accordance with the requirements of Section 00 41 13. Where required, the scope of work per unit price shall be jointly assessed and agreed upon between the Design Professional and Contractor.

1. Provide unit price per square foot for the removal and replacement of steel decking.
2. Provide unit price per square foot for corrosion removal and painting of steel decking.
3. Provide unit price per hour for corrosion removal and painting of the light gage steel attic framing at FRT plywood replacement areas.

1.04 RELATED SPECIFICATIONS

Division 1	General Requirements
02 41 19	Selective Demolition
06 10 53.01	Rough Carpentry for Roofing
07 22 16	Roof Board Insulation
22 14 26.13	Roof Drains

1.05 STANDARD REFERENCES

- A. AISI – American Iron and Steel Institute
- B. AWS – American Welding Society
- C. SDI – Steel Deck Institute
- D. SSPC – Steel Structures Painting Council

1.06 SUBMITTALS

- A. Product Data:

Submit manufacturer's product data for each type of deck, accessory, and product specified.

1.07 REUTILIZED MATERIALS

The following items shall be assumed to be fully salvageable and reusable:

N/A

1.08 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage, and handling.
- B. Stack steel deck on platforms or pallets and slope to provide drainage. Protect with waterproof covering and ventilate to avoid condensation.
- C. Material shall be located on site in manner that overloading of any of the individual framing members does not occur.

1.09 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with the provisions of the following codes and standards, except as otherwise shown or specified:
 - 1. AISI "Specification for the Design of Cold-Formed Steel Structural Members"
 - 2. SDI "Steel Roof Deck Design Manual"

PART 2 – PRODUCTS

2.01 STEEL ROOF DECK

- A. Steel Roof Deck:
 - 1. Material Properties:
 - Minimum Yield Strength: 33 ksi
 - Deck Profile: To match existing.
 - Profile Depth: 1-1/2"
 - Thickness: 20 Ga.
 - Span Condition: Two or more
 - Side Joints: Overlapped
 - Protective Coating: Galvanized
 - 2. Manufacturers:
 - Nucor Corp., Lawrenceville, GA
 - Roof Deck, Inc., Hightstown, NJ
 - United Steel Deck, Inc., Summit, NJ
- B. Flat Stock Sheet Metal:
 - 1. Material Properties:
 - Minimum Yield Strength: 33 ksi
 - Profile: Flat Stock
 - Thickness: 18 gauge
 - Span Condition: 12" max.
 - Side Joints: Overlapped

Protective Coating: G-90 Galvanized

2.02 DECK FASTENERS – SELF-DRILLING SCREWS

A. Steel Deck Fasteners – Self-Drilling Screws:

1. Material Properties:

Diameter:

#12 – Steel Support Attachment

#12 – Deck Side Laps

Corrosion Resistance:

Kesternich Results (DIN 50018, 2.0L)

30 Cycles – 10% or less red rust

Salt Spray Test (ASTM B117):

720 hours – 10% or less red rust

Drill Point: As required for material thickness

2. Material Manufacturers:

1. ITW Buildex, Itasca, IL

2. Trufast Corp., Bryan, OH

3. Fastenal, Winona, MN

2.03 DECK COATING MATERIAL

A. Paint

1. Material Properties:

- Volume Solids: 39% +/- 2%

- Weight Solids: 53% +/-2%

- VOC: <100 g/L

- Adhesion: ASTM D4541 – 500 psi

- Corrosion Weathering

ASTM D5894 – 3,360 hours, 10 cycles: Pass

- Salt Fog Resistance ASTM B117 – 1,250 hours: Pass

2. Material Manufacturers:

- Sherwin Williams, Cleveland, OH – Pro-Cryl Universal Primer

- Benjamin Moore, Montvale, NJ

- DuPont, Wilmington, DE

PART 3 – EXECUTION

3.01 EXAMINATION

A. Examine all roof deck surfaces for corrosion-induced defects.

- B. Areas of light corrosion shall be repaired by removing the corrosion and painting.
- C. Areas of moderate-to-severe corrosion shall be repaired by removing the existing decking and installing new decking. Overlay of the existing decking is not allowed, except with the Design Professional's permission.

3.02 PREPARATION

- A. General: Prior to the start of corrosion removal or painting operations, the Contractor shall install interior protection and/or seal holes in the decking to prevent paint from dripping through holes or joints in the decking and damaging any interior furnishings or finishes. Upon completion, the interior protection shall be removed.

3.03 DECK REPLACEMENT

- A. In areas where deck replacement is required, the existing decking must be removed in lengths so that no existing or new decking will span less than three (3) structural supports. Holes in the deck from removed penetrations that are 12" or less in diameter can be repaired by overlaying with a flat plate.
- B. Lap ends of deck units not less than 2 inches centered over supports.
- C. Deck units shall have a minimum of 1-1/2" bearing onto the structural support.
- D. Place deck units flat and square, secured to adjacent framing without warp or excessive deflection.
- E. Mechanically fasten deck units to structural steel supports with a minimum of one (1) self-drilling screws, at 12" on-center in the field and 6" on-center at the perimeter and corner areas. Perimeters and corner areas shall be as recommended by ASCE 7.
- F. Mechanically fasten deck side laps with self-drilling screws spaced 24" on-center.
- G. Use of power-actuated fasteners is prohibited.
- H. Deck securement by welding is prohibited.

3.04 CORROSION REMOVAL AND PAINTING

- A. In areas where corrosion removal and painting is required, the existing decking must be cleaned prepared per SSPC – SP2 – Hand-Tool Clean and SP3 – Power Tool Clean.
- B. Prior to painting, remove dirt, dust, debris, or similar contaminants from the surface. Asphalt contamination need not be removed prior to painting.
- C. The paint coating shall be applied in a one (1) coat application to provide a minimum wet mil thickness of 6.0 mils.

- D. The paint shall dry to the touch prior to the application of the roof system. It is acceptable to cover the wet paint with plastic sheeting and installing the roof system immediately.
- E. The contractor is responsible to monitor the interior for fumes or odors related to the paint application. If any odors or fumes are detected, it is the responsibility of the contractor to provide additional ventilation to remove the fumes or odors. This is incidental to the paint application and no additional costs will be allowed for this.

3.05 REPAIRS/RESTORATION

- A. After deck installation, clean and paint any scarred areas with equal type of finish as shop finish.

END OF SECTION 05 30 23.01 – STEEL DECK REPAIR

06 10 53.01
ROUGH CARPENTRY FOR ROOFING

PART 1 - GENERAL**1.01 GENERAL REQUIREMENTS**

- A. The provisions of the General Conditions and the Sections included under Division 1 - General Requirements, are included as part of this Section as though bound herein.

1.02 SCOPE OF WORK

- A. Work of this section shall provide Owner with sound wood blocking to allow for the attachment of roofing components.
- B. Items covered by this specification section:
1. Wood blocking
 2. Plywood sheathing
 3. Fire-retardant treated wood sheathing
 4. Fasteners
 5. Accessories

1.03 UNIT PRICE WORK

The following work shall be added or deleted on a unit price basis in accordance with the requirements of Section 00 41 13. Where required, the scope of work per unit price shall be jointly assessed and agreed upon between the Design Professional and Contractor.

1. N/A

1.04 RELATED SPECIFICATIONS

Division 1	General Requirements
02 41 19	Selective Demolition
07 22 16	Roof Board Insulation
07 31 13	Asphalt Shingles
07 53 23	Ethylene-Propylene-Diene-Monomer (EPDM) Roofing

1.05 REFERENCES

- A. American Plywood Association (APA)
1. PRP-108 – Performance Standards and Policies for Structural-Use Panels
- B. American Society of Testing and Materials (ASTM)
1. ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
- C. American Wood Preservers Association (AWPA)
1. C20 – Structural Lumber, Fire-Retardant Treatment by Pressure Processes
 2. C27 – Plywood, Fire-Retardant Treatment by Pressure Processes

- 3. U1 – User Specification for Treated Wood
- D. Federal Specifications
 - 1. MIL-L-19140 – Lumber and Plywood, Fire-Retardant Treated
- E. FM Global
 - 1. Data Sheet 1-28 – Design Wind Loads
 - 2. Data Sheet 1-49 – Perimeter Flashing
- F. Underwriter's Laboratories (UL)
 - 1. UL 723 – Test for Surface Burning Characteristics of Building Materials and Flammability Ratings.
- G. U.S. Product Standards
 - 1. PS 1 – Construction and Industrial Plywood
 - 2. PS 20 – American Softwood Lumber Standard
- H. American Wood Council (AWC)
 - 1. National Design Specification for Wood Construction
- I. National Fire Protection Association (NFPA)
 - 1. NFPA 255 – Standard Method of Test of Surface Burning Characteristics of Building Materials.

1.06 DEFINITIONS

- A. Dimensional Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.
- B. Board or Strips: Lumber of less than 2 inches nominal size in least dimension.

1.07 PERFORMANCE REQUIREMENTS

- A. General: Installed wood blocking and sheathing shall be secured to the building structure to provide an attachment point for the specified products and assemblies.
- B. Material Compatibility: Provide wood materials that are compatible with the building structure, fasteners, and other materials that will be in contact with the wood materials. Provide separator materials where required to prevent compatibility issues.

1.08 REUTILIZED MATERIALS

- A. The following items shall be assumed to be fully salvageable and reusable:
 - 1. Existing wood blocking, where specified for re-use.

1.09 SUBMITTALS

Submit in accordance with Section 01 33 00:

- A. Product Data:

1. Wood – include species and grade.
 2. Fasteners – including load capacity and pull-out resistance.
 3. Fire retardant treatment.
- B. Product Samples:
1. Fasteners – each type.
- C. Material Safety Data Sheets (MSDS):
1. Submit an MSDS sheet for each material that will be utilized on-site.

1.10 QUALITY ASSURANCE

- A. Source Limitations: Obtain wood materials, fasteners, sheathing, and accessories from a single manufacturer for each product required, unless approved by the Design Professional.
- B. Wood Standard: National Design Specification for Wood Construction; American Plywood Association.
- C. Installer Qualifications: A firm that has been engaged in carpentry work for a minimum of five (5) years.
- D. Environmental Standard: Manufacturer and contractor shall conform to Federal, State, and Local V.O.C. (Volatile Organic Compound) Regulations in area where the project is located. Notify Design Professional in writing if variations to the Contract Documents are required to comply with these regulations.

1.11 DELIVERY, STORAGE, AND HANDLING

- A. Materials delivered to site in a wet condition shall be rejected and removed off Owner's property.
- B. Stack lumber to ensure proper ventilation and drainage. Protect lumber from the elements.
- C. Store in a manner that will prevent warpage.

1.12 JOB CONDITIONS (CAUTIONS AND WARNINGS)

- A. All methods employed in performing the work, and all equipment, tools, and machinery used for handling materials and executing any part of the work, shall be subject to the approval of the Design Professional before the work is started, and whenever found unsatisfactory, shall be changed and improved as required.
- B. Time delivery and installation of carpentry to avoid delaying other operations whose work is dependent on or affected by the carpentry work, and to comply with protection and storage requirements.
- C. Protect installed carpentry from damage due to other work activities and weather.

- D. Select anchors for attachment of carpentry suitable for structural roof substrate.

PART 2 - PRODUCTS

2.01 LUMBER

- A. Grading Rules: PS 20
- B. Dimensions: Lumber dimensions are nominal; actual dimensions conform to industry standards established by American Lumber Standards Committee and rules writing agencies.
- C. Moisture Content: Shall be kiln-dried to 15%, maximum
- D. Species: No. 2 grade (or better) Southern Yellow Pine
- E. Treatment: None

2.02 SHEATHING

- A. Comply with PS-1 for plywood construction panels and, for products not manufactured under PS-1 provisions, with APA PRP-108.
- B. Moisture Content: 15% maximum.
- C. Exposure: 1
- D. Grade Designation: CDX
- E. Treatment: Fire Retardant Treated, where specified
- F. Span Rating: 5/8" Wall and Roof Sheathing - 40/20; 1/2" plywood – 32/16

2.03 FIRE RETARDENT TREATMENT

- A. Lumber: AWPA C20
- B. Plywood: AWPA C27
- C. Flame Spread: Less than 25 per ASTM E84, NFPA 255, or UL 723.
- D. Moisture Content: Lumber - 19% maximum; Plywood 15% maximum
- E. Fire-retardant chemicals used to treat the lumber must be free of halogens, sulfates and ammonium phosphate.
- F. Testing on the fire performance, strength and corrosive properties of the fire-retardant treated wood shall be recognized by issuance of a National Evaluation Services Report.
- G. Carbon steel, galvanized steel, aluminum, copper and red brass in contact with the fire-retardant treated wood must exhibit corrosion rates of less than one mil per year when

tested in accordance with Federal Specification MIL-L-19140 Paragraph 4.6.5.2.

2.04 FASTENERS

- A. General: All fasteners shall be corrosion-resistant stainless steel or heavy-duty fluorocarbon-coated steel threaded screw fasteners unless otherwise noted, to meet/exceed Factory Mutual Standard 4470 (current edition). Fasteners in contact with preservative treated or fire-retardant treated materials shall be tested and approved for use with fire-retardant treated materials.
- B. Wood-to-Metal Applications: #12-14 self-drilling screw (#12-14 for steel thickness 0.048" to 0.210" and #12-24 for steel thickness 0.210" to 0.500") with 0.500" diameter head with wafer head. Screw length shall be sized as required for plywood sheathing thickness. Fastener must be tested for use with fire-retardant treated wood. Basis-of-Design: Triangle Fastener Corp – Blazer Self-Drilling Screws, Wood-to-Metal Screws.
- C. Wood Screw Fasteners: #10 diameter shank, bugle head, and Type 17 point.
- D. Concrete Screw Fasteners: 0.190" (#14) diameter shank and 0.435" head diameter.
- E. Anchor Bolts: ½" diameter hot-dipped Galvanized anchor bolts with a J-shaped end that is to be embedded into fresh concrete or grout.
- F. Adhesive Anchor Bolts – Adhesive anchoring system designed for use in grout filled masonry. Adhesive anchor must have ICC-ES Evaluation Report for required application.
 - 1. Material Properties:
 - a. Threaded Rod: ½" diameter steel grade 55, ASTM F1554 Galvanized anchor bolts.
 - 2. Manufacturers:
 - a. Hilti North America – HIT-HY 270 Adhesive Anchor
 - b. DeWalt – Pure 110+ or AC100+ Gold
 - c. Or Approved Equal
- G. Washers: Galvalume steel or 300 series stainless steel.
- H. Manufacturers:
 - Triangle Fastener Corp., Pittsburgh, PA
 - Trufast (Altenloh, Brinck & Co. US, Inc.), Bryan, OH
 - OMG Roofing Products, Agawam, MA
 - Power Fasteners, Brewster, NY
 - ITW Buildex, Itasca, IL

2.05 REJECTED MATERIALS

- A. The Design Professional shall have the right to inspect all materials brought to or stored at the job site. Those materials that do not comply with the above requirements shall be removed from the Owner's premises within two (2) hours of verbal notification to the person designated by the Contractor to be the lead on site supervisor. The verbal notification will

be by the Design Professional, which will be followed by written confirmation.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Installer must examine the substrates and supporting structure and the conditions under which the carpentry work is to be installed. Notify the Design Professional in writing of conditions detrimental to the Work.
- B. Discard units of material which are unsound, warped, bowed, twisted, improperly treated, not adequately seasoned or too small to fabricate the Work with a minimum of joints or the optimum jointing arrangement.
- C. Verify the existing wood blocking is securely attached and in good condition. The Design Professional shall be notified in writing, if the attachment, condition, location, or size of the wood blocking does not meet the specification requirements.

3.02 INSTALLATION

- A. General:
 - 1. Fit carpentry work to other work. Scribe and cope as required for accurate fit.
 - 2. Set carpentry work accurately to required levels and lines with members plumb and true.
 - 3. Securely attach carpentry work to substrates by anchoring and fastening as specified and as required by applicable building codes. Wood blocking shall be fastened to resist a force of 200 lbs. per linear foot applied in any direction.
 - a. Provide washers under bolt heads and nuts in contact with wood.
 - b. Countersink fastener heads where detailed on drawings, or where required by subsequent application of flashing materials.
 - 4. Fasteners: Make tight connections between members. Install fasteners without splitting of wood. If structural deck is thicker than 20-gauge or where wood rides up threading prior to penetrating the structural deck, pre-drill the blocking. Where required, use washers and countersink into wood member.
 - 5. Tighten bolts and lag screws at installation and re-tighten as required for tight connections prior to closing in or at completion of work.
 - 6. A minimum of two (2) fasteners shall be utilized per section of wood, regardless of length. Pull out resistance must be a minimum of 360 lbs. per fastener.
 - 7. All wood blocking indicated on the project drawings is to be new wood blocking, unless the drawings indicate that the blocking is existing and is to remain in place. The wood blocking shown on the project drawings is for graphical illustrations only and does not reflect the actual number of layers required at all locations. The

contractor shall determine the number of layers of wood blocking required based on the insulation required and the field conditions.

8. The wood blocking shall be a minimum of 2" x 6" at perimeter edges. Wood blocking at interior locations shall be a minimum of 2" x 4".
9. Use of power-actuated fastener use is not permitted.
10. Fasteners shall be installed in accordance with the manufacturer's installation recommendations.
11. The fastener thread penetration into or through the substrate shall be as listed below. Edge and end distances shall be as listed below. The fastener penetration shall exclude any drilling point or tapered point.
 - a. Solid Wood Blocking: 6 x Screw Diameter into the substrate and minimum 1-1/4" embedment; edge and end distances as required to prevent splitting.
 - b. Plywood or OSB Sheathing: 3/4" minimum penetration through the sheathing; edge distance 3/8"
 - c. Steel Decking: 3/4" through the sheet metal; 1/2" minimum edge distance.
 - d. Concrete: 1" min. embedment; 6 x Screw Diameter edge distance
 - e. Masonry or Stone: 1-1/2" min. embedment; 8 x Screw Diameter edge distance.

3.03 WOOD BLOCKING INSTALLATION – WOOD, STEEL, OR CONCRETE SUBSTRATES

- A. Wood blocking shall be installed at appropriate roof perimeters, curbs, and similar penetrations. All wood blocking shall be of sufficient thickness so as to be flush with the roof insulation. Wood blocking shall not be lower than the insulation surface.
- B. The wood blocking shall be fastened to the substrate at 12" on-center, staggered. The fastener spaced shall be enhanced eight feet (8') from each corner to two (2) rows of fasteners 12" on-center. At each end of the blocking there shall be two (2) fasteners installed.
- C. For wood blocking wider than 6 inches, bolts should be staggered to avoid splitting the wood. Each wood blocking member should have at least two fasteners. A fastener should be located approximately 4 inches but not less than 3 inches from each end of the wood. Additional wood members, such as cant strips and stacked wood blocking, should be fastened with corrosion-resistant fasteners having sufficient pullout resistance. Fasteners should be staggered, spaced at a maximum 12 inches on centers and should penetrate the wood sufficiently to achieve design pullout resistance.
- D. At areas of tapered insulation, solid wood blocking shall be installed by shaping the wood blocking to the same profile as the tapered insulation. Wood blocking shall not be lower than the insulation surface.
- E. Install wood blocking with one-eighth inch (1/8") gap between each length or as required based on climatic conditions at the time of installation.
- F. Wood blocking, cants, etc. shall be chamfered, beveled, shaved, planed, or shimmed as

necessary to provide smooth transition to adjacent materials.

- G. Wood shims, where used for providing transition to insulation. Shims are only acceptable in conditions where shim thickness does not exceed one-half inch (1/2"). All shim material to be in compliance with this Section. All shims must be continuous and shall be placed at deck level.
- H. Pre-drilling of fastener holes will be required for installation of wood blocking over any concrete surface.

3.04 WOOD BLOCKING INSTALLATION – TOP OF HOLLOW-CORE CMU

- A. The wood blocking shall be fastened to the CMU wall with anchor bolts located 4' on-center.
- B. At hollow-core wall areas, an anchor bolt shall be installed to a depth of 16" and grouted into place. The anchor bolt shall be countersunk into the wood blocking so that the bolt does not extend above the surface of the wood blocking. Provide washers at countersunk hole locations.
- C. At solid concrete or CMU walls, an adhesive anchor bolt shall be installed to a depth of 6" and adhered into the concrete with a chemical adhesive. The anchor bolt shall be countersunk into the wood blocking so that the bolt does not extend above the surface of the wood blocking. Provide washers at countersunk hole locations.
- D. Install wood blocking with one-eighth inch (1/8") gap between each length or as required based on climatic conditions at the time of installation.

3.05 SHEATHING INSTALLATION

- A. General:
 - 1. Fastener heads shall be set flush with the sheathing surface.
 - 2. Sheathing sheets shall be spaced with a one-eighth inch (1/8") gap between sheets at all edges and ends.
 - 3. Stagger panel end joints.
- B. Installation Over Rafters:
 - 1. Where sheathing is installed as sheathing over open-framing, the sheathing shall be fastened 6" on-center at each end of the plywood and 12" o.c. at each intermediate support location for field of roof areas (Zone 1). The sheathing shall be fastened 6" on-center at each end of the plywood and 6" o.c. at each intermediate support location for the perimeter and corner areas (Zones 2 and 3).
 - 2. One (1) panel clip per span shall be installed for spans up to 24" o.c., if panels with tongue and grooved edges are not utilized.
- C. Installation Over Solid Substrates:
 - 1. Where sheathing is installed over a solid substrate, the sheathing shall be secured at a rate of 20 fasteners per 4'x8' sheet of sheathing, unless otherwise specified.

3.06 COMPLETION

- A. Work that does not conform to specified requirements including tolerances and finishes, shall be corrected and/or replaced, as directed by Design Professional, at Contractor's expense, without extension of time. Therefore, Contractor shall also be responsible for cost of corrections to any Work affected by or resulting from correction to work of this Section.

END OF SECTION 06 10 53.01 - ROUGH CARPENTRY FOR ROOFING

07 22 16
ROOF BOARD INSULATION

PART 1 - GENERAL**1.01 GENERAL REQUIREMENTS**

- A. The provisions of the General Conditions and the Sections included under Division 1 - General Requirements, are included as a part of this Section as though bound herein.

1.02 SCOPE OF WORK

- A. Items covered by this specification section:
1. Rigid Insulation
 2. Cover Board
 3. Vapor Retarder
 4. Accessories
- B. It is the intent of this specification to provide a layer of roof insulation to form a smooth, uninterrupted and stable base for a membrane roof system, inclusive of tapered insulation as required.

1.03 UNIT PRICE WORK

- A. The following work shall be added or deleted on a unit price basis in accordance with the requirements of Section 00 41 13. Where required, the scope of work per unit price shall be jointly assessed and agreed upon between the Design Professional and the Contractor.
1. N/A

1.04 RELATED SECTIONS

Division 1	General Requirements
02 41 19	Selective Demolition
06 01 53.01	Rough Carpentry for Roofing
07 53 23	Ethylene-Propylene-Diene-Monomer (EPDM) Roofing
07 72 00	Roof Accessories
22 14 26.13	Roof Drains

1.05 REFERENCES

- A. American National Standard Institute/Single Ply Roofing Industry (ANSI/SPRI)
1. IA-1 – 2021 – Standard Field Test Procedure for Verifying the Suitability of Roof Substrates and Adhesives
 2. FX-1 – 2011 – Standard Field Test Procedure for Determining the Withdrawal Resistance of Roofing Fasteners
- B. American Society of Testing and Materials (ASTM)
1. C168 - Standard Terminology Relating to Thermal Insulation

2. C177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus
 3. C209 – Methods of Testing Insulating Board, Structural and Decorative
 4. C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
 5. C1289 - Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board
 6. C 1303 - Standard Test Method for Estimating the Long-Term Change in the Thermal Resistance of Unfaced Closed Cell Plastic Foams by Slicing and Scaling Under Controlled Laboratory Conditions.
 7. D1079 - Standard Terminology Relating to Roofing and Waterproofing
 8. D1621 - Standard Test Method for Compressive Properties of Rigid Cellular Plastics
 9. D 2126 - Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging.
 10. E84 - Standard Test Method for Surface Burning Characteristics of Building Materials
 11. E96 - Standard Test Methods for Water Vapor Transmission of Materials
- C. Factory Mutual Research (FM)
1. Approval Standard 4450 – Approval Standard for Class 1 Insulated Steel Roof Decks
 2. Approval Standard 4470 – Single-Ply, Polymer-Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Assemblies for use in Class 1 and Noncombustible Roof Deck Construction
 3. Data Sheet 1-29 – Roof Deck Securement and Above Deck Components
- D. National Roofing Contractors Association (NRCA)
1. The NRCA Roofing Manual: Membrane Roof Systems.

1.06 DEFINITIONS

- A. Terminology: See ASTM D1079, C168, and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this section.

1.07 PERFORMANCE REQUIREMENTS

- A. Polyisocyanurate Insulation
1. General: Installed roof insulation, underlayment boards, and cover boards shall serve as a stable base for the roof system installation; and resist specified uplift pressures, thermal and moisture induced movement, and exposure to weather without excessive movement that causes failure of the roof membrane. The roof insulation system and system components shall comply with requirements in FM Approvals of 4450 and 4470, current editions.
 2. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by component manufacturer based on testing and field experience.
 3. Wind Up-Lift Characteristics: Provide a roofing system that is identical to

systems that have been successfully tested in accordance with FM 4474 by a qualified testing and inspecting agency to resist uplift pressures and hail as listed below. The perimeter and corner areas shall be prescriptively enhanced in accordance with the current edition of FM Global Loss Prevention Data Sheet 1-29.

- a. Field Wind Up-Lift Rating: 60 psf
- 4. Fire-Test Response Characteristics: Provide roofing materials with the fire-test response characteristics indicated as determined by testing identical products per test method indicated below by UL, FM, or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
 - a. Interior Fire-Test Exposure: Class 1
 - b. Flame Spread and Smoke Development: ASTM E-84; <75/<450

1.08 REUTILIZED MATERIALS

A. The following items shall be assumed to be fully salvageable and reusable:

- 1. N/A

1.09 SUBMITTALS

Submit in accordance with Section 01 33 00:

A. Product Data:

- 1. Submit product data sheets for each material specified or required for installation of the insulation system. Include data substantiating that materials comply with requirements of this specification.
- 2. Submit specifications, installation instructions, and general recommendations from roof insulation materials manufacturers for type of roof insulation specified.
- 3. Submit manufacturer's suggested material handling and material protection requirements.

B. Shop Drawings:

- 1. Drawings illustrating tapered insulation layout, method of attachment, intersections with adjacent materials, and other installation details.

C. Product Samples:

- 1. Roof Insulation: Sample size 6-inches by 6-inches.
- 2. Cover Board: Sample size 6 inches by 6 inches.
- 3. Insulation Fasteners: Samples of screw and plate.
- 4. Vapor Retarder: 12-inch square sample with lap seam and tape.

D. Material Safety Data Sheets (MSDS):

1. Submit an MSDS sheet for each material that will be utilized on-site.

E. Field Testing:

1. Perform fastener pull-out tests in accordance with ANSI/SPRI FX-1 – 2011 for each type of fastener that is required. Submit written evidence of the fastener pull-out tests of deck and/or wall substrate(s) to show compliance with this specification.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. All products delivered to the site shall be in the original unopened containers, wrappings, or crating. Storage areas will be defined by Owner or Design Professional.
- B. Average live loads on the roof during the work shall not exceed twenty (20) pounds per square foot at any time.
- C. Handle all materials to prevent damage.
- D. The Contractor shall store the materials to prevent exposure to UV light, precipitation, condensation (i.e. night-time dew or internal condensation within the packaging), and other moisture entry or formation. The following are the minimum storage requirements:
1. Elevate the insulation bundles a minimum of 3" above the ground or finished surface. Storage on paved surfaces is preferred over grass or dirt.
 2. Cover the insulation material with a waterproof, breathable cover. The cover must be secured to prevent displacement by wind forces.
 3. If recommended by the manufacturer, slit the factory wrappings to allow the product to breathe. The integrity of the bundles must be maintained so that the material can still be handled in full bundles.
 4. Long-term storage must be indoors in a dry, well-ventilated building.
 5. Regardless of the storage method selected by the Contractor, if the insulation is wet or is water-stained, it shall be replaced at the Contractor's expense.
- E. Store temperature susceptible materials in a dry and heated area between 60 degrees F and 80 degrees F. If exposed to lower temperatures, restore to proper temperature prior to use. Provide certification from the manufacturer indicating that freezing temperatures will not adversely affect the materials use and performance, and that roof system application will not be restricted by low ambient temperatures.
- F. Materials determined by the Design Professional to be damaged or to have been subjected to adverse conditions shall be removed and replaced at Contractor's expense.
- G. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Closely follow precautions/instructions outlined on container or supplied by manufacturer/supplier (MSDS sheets).
- H. Protect insulation against concentrated loads, and standing loads exerting a force in

excess of 50% of the material's compressive strength.

- I. Do not expose foam core to excessive heat, sparks, or open flame.
- J. Any traffic shall be limited to the workmen installing the material.
 - 1. The Contractor shall plan installation progress to prevent or minimize traffic across completed or partially completed sections. Where traffic across completed or partially completed sections is necessary, Contractor shall provide protection adequate in nature and duration, consistent with requirements of the material manufacturer.

1.11 WEATHER LIMITATIONS ON WORK

- A. Proceed with installation only when existing and forecasted weather conditions permit insulation board system to be installed according to manufacturer's written instructions and warranty requirements. Roofing work shall not be done during precipitation and shall not be started in the event there is a high probability of precipitation during the ongoing work.
- B. At ambient temperatures of 40 degrees F and below, including wind chill, precautions must be taken to ensure that temperature-susceptible materials maintain their minimum acceptable temperature at the point of application as recommended by the roofing materials manufacturer.

1.12 WORK SEQUENCE

- A. Work shall begin at the furthest point from the designated spot where materials are shipped to the roof. Work shall be scheduled to minimize traffic over newly completed or previously renovated roof area.
- B. All insulation installed in any one day shall be covered with complete roof system underlayment or roof membrane to prevent any water infiltration.

1.13 PROJECT CONDITIONS (CAUTIONS AND WARNINGS)

- A. All methods employed in performing the work, and all equipment, tools, and machinery used for handling materials and executing any part of the work, shall be subject to the approval of the Design Professional before the work is started, and whenever found unsatisfactory, shall be changed and improved as required.
- B. Contractor shall implement all necessary precautions to prevent debris or materials/equipment from becoming airborne due to wind conditions anticipated at the site. Contractor shall conform to all regulations and precautions as required by applicable safety organizations.

1.14 MANUFACTURER'S REPRESENTATIVE

- A. Contractor shall require the presence of a Technical Representative of the material manufacturer to perform inspections and provide field instructions during the duration of the work, as required by the manufacturer for a guaranteed job.

- B. In addition, Design Professional may require the presence of the Technical Representative of the roofing material manufacturer, as necessitated by the work progress.
- C. The Technical Representative shall be employed by the roofing material manufacturer. The roofing material manufacturer shall designate one (1) Technical Representative for the duration of the project.

1.15 GUARANTEE

- A. A full system warranty is required for the low-sloped roof areas. The roof system manufacturer shall warrant the entire roof system, inclusive of the roof insulation for the periods as indicated in Section 07 53 23 Ethylene-Propylene-Diene-Monomer (EPDM) Roofing.

1.16 QUALITY ASSURANCE

- A. Contractor Qualifications:
 - 1. Contractor must be trained by the manufacturer in application of insulation system specified and must be approved for this work by manufacturer.
- B. Manufacturer Qualifications:
 - 1. Manufacturer shall be a company that regularly manufactures polyisocyanurate and fully assembled nailbase insulation panels in-house with no outside fabrication operations.

PART 2 – MATERIALS

2.01 GENERAL

- A. If materials from other manufacturers are proposed, supporting technical literature, drawings, performance data and manufacturers written endorsement of this specific product for use under job conditions must be submitted in accordance with the Instructions to Bidders.
- B. Preformed roof insulation boards manufactured or approved by roof system manufacturer. Selected from manufacturer's standard sizes suitable for application of thicknesses indicated and that produce FM Approvals for approved roof insulation.

2.02 POLYISOCYANURATE BOARD INSULATION

- A. Flat polyisocyanurate rigid roof insulation with reinforced non-organic biological growth-resistant coated-glass facers shall conform to ASTM C 1289 Type II, Class 2, Grade 3 (25 psi). The minimum LTTR value shall be 5.6 per 1" per ASTM C1303.
- B. Tapered polyisocyanurate rigid roof insulation with reinforced non-organic biological growth-resistant coated-glass facers shall conform to ASTM C 1289 Type II, Class 2, Grade 3 (25 psi). The minimum LTTR value shall be 5.6 per 1" per ASTM C1303.

- C. Tapered Edge Strip: Polyisocyanurate rigid roof insulation with reinforced non-organic biological growth-resistant coated-glass facers shall conform to ASTM C 1289 Type II, Class 2, Grade 3 (25 psi). The minimum LTTR value shall be 5.6 per 1" per ASTM C1303.

1. Edge thickness: 0"
2. Slope: 1:12 or 1.5:12
3. Width: 12"

- D. Manufacturers

1. H-Shield CG; Hunter Panels, Portland, ME
2. Atlas AC Foam III, SureSlope Tapered Edge Strip; Atlas Roofing Corporation, Atlanta, GA
3. Isogard CG Insulation; Elevate, Nashville, TN
4. Enrgy 3 CGF; Johns Manville, Denver, CO
5. Roof System Manufacturer

2.03 COVER BOARD

- A. High-density polyisocyanurate cover board with reinforced non-organic biological growth-resistant coated glass facers shall conform to ASTM C 1289 Type II, Class 4, Grade 1.

1. Thickness: 1/2"

- B. Manufacturers

1. H-Shield HD; Hunter Panels, Portland, ME
2. AC Foam HD; Atlas Roofing Corporation, Atlanta, GA
3. Isogard HD; Elevate, Nashville, TN
4. ProtectR HD; Johns Manville, Denver, CO
5. Roof System Manufacturer

2.04 VAPOR RETARDER

- A. Polyethylene and Polypropylene Vapor Retarder: A 3 ply laminate reinforced film vapor retarder with the following material properties:

1. Permeance (Perm) – ASTM E 96 (Procedure B): 0.13 maximum
2. Thickness: 6 mils (minimum)
3. Fire Retardancy – ASTM E-84: <25 Flame Spread, < 450 Smoke Developed

- B. Manufacturers

1. Griffolyn Type-55 FR; Reef Industries, Houston, Texas
2. DURA-SKRIM 6WW; Raven Industries, Sioux Falls, South Dakota
3. WMP-VR; Lamtec Corporation, Mount Bethel, Pennsylvania
4. Roof System Manufacturer

C. Auxiliary Materials

1. Tape: 4" wide self-adhesive pressure sensitive air barrier tape with flame spread index of 25 or less, smoke-developed index of 50 or less provided by or recommended by vapor retarder manufacturer for sealing seams and penetrations (i.e. curbs).
2. Pipe flashings (with deck flanges): Sized to fit typical penetrations (i.e. water lines, gas lines, drainpipes and vent pipes). Used in conjunction with air barrier system tapes.
3. Butyl Tape: 1.5" to 2.0" wide 35 mil butyl tape used to seal the perimeter edge and penetrations through the air barrier.

2.05 ACCESSORIES

A. Insulation, Substrate, and Cover Board Fasteners

1. General:
 - a. Fasteners, inclusive of plates/adhesive system, must conform to the roof or product manufacturer's requirements.
 - b. Adhesive to have Factory Mutual approval for application.
 - c. Load distribution plates shall conform to FM 4470 for corrosion resistance. Roof systems utilizing mechanically fastened insulation require metal plates, unless an alternate method is specifically approved by the roof system or product manufacturer and the Design Professional.
 - d. Fastener pullout resistance must be a minimum of 360 lbs. per fastener.
 - e. Adhesive pull test resistance must be a minimum of 90 lbs. per square foot (ribbon spacing 12" o.c.).
 - f. All steel fasteners shall be carbon steel with a corrosion-resistant coating that meets or exceeds Factory Mutual Standard 4470 unless noted otherwise.
2. Manufacturers:
 - a. SFS/Stadler Inc., Valley City, Ohio
 - b. Tru-Fast, Bryan, Ohio
 - c. ITW Buildex, Elmhurst, Illinois
 - d. OMG Roofing Products, Agawam, Massachusetts
 - e. Roof System Manufacturer
3. Steel Deck:
 - a. Fasteners to have self-drilling tip. Fastener tip shall be capable of cutting steel deck material of 20-gauge thickness at point of steel deck overlap without damage to the fastener tip.
 - b. Fasteners shall be installed in high flute of steel deck with a minimum of one-half inch (1/2") penetration. Fasteners shall not extend past the bottom of the steel deck (i.e. low rib).

B. Polyurethane Foam Sealant (Spray Foam)

1. Polyurethane foam sealant used to seal perimeter edges, penetrations, and

slope transitions. Foam sealant shall be produced by or acceptable to the roofing system/insulation system manufacturer.

2. Manufacturer

- a. Dow Chemical Company; Midland, MI
 - Great Stuff Pro Gaps and Cracks – gaps less than 1/2"
 - Froth Pak Foam Sealant – gaps larger than 1/2"
- b. Convenience Products; Fenton, MO
 - Home Seal – Gaps less than 1/2"
- c. FOMO Products; Norton, OH
 - Extreme – gaps less than 1/2"
 - Handi Foam – gaps larger than 1/2"
- d. Hilti Corporation; Tulsa, OK
 - CF810-Gaps less than 1/2"

C. High Temperature Insulation Fill

- 4. High temperature ceramic fiber insulation used as a heat separator between inner flue and exterior heat shroud for high temperature penetration flashings. Product shall have a low thermal conductivity, low heat storage, excellent thermal shock resistance, be lightweight and have superior corrosion resistance.
- 5. Manufacturer
 - a. Refractory Specialties, Inc., Sebring, Ohio
 - b. McNeil Insulation Co., division of McNeil, Inc., Robbinsville, New Jersey
 - c. Ohio Valley Industrial Services, Inc., Coraopolis, Pennsylvania

2.06 REJECTED MATERIALS

- A. The Design Professional shall have the right to inspect all materials brought to or stored at the job site. Those materials that do not comply with the above requirements shall be removed from the Owner's premises within two (2) hours of verbal notification to the person designated by the Contractor to be the lead on site supervisor. The verbal notification will be by the Design Professional, which will be followed by written confirmation.

PART 3 - EXECUTION

3.01 INSPECTION

- A. A Pre-Job conference including the Design Professional, Owner's Representative, the Contractor, the manufacturer's representative and all involved trades shall be conducted prior to commencement of the roofing work.
- B. Examine the substrate and the conditions under which the work is to be performed. Do not proceed until unsatisfactory conditions have been corrected as required for the material application and in accordance with the material manufacturer's specifications and requirements. Surfaces to receive roofing material components are to be clean, even, smooth, dry and free from defects and projections which might adversely affect the application. Verify slope prior to installation.
- C. Contractor shall verify that work penetrating the roof deck or which may otherwise affect

the roofing has been properly completed.

- D. Start of roof insulation installation shall constitute acceptance of substrates by Contractor.

3.02 PREPARATION

- A. General: All surfaces shall be swept or vacuumed prior to commencement of roofing work.
- B. Drainage: Contractor, together with Design Professional, shall verify that all drain lines are unblocked before starting work. Any blocked drains shall be cleared by the Owner before starting work. Cover all drains and other openings intended for roof drainage with screens to prevent clogging of the drainage system. During construction, allow for sufficient drainage to prevent ponding with possible structural overloading.
- C. Fasteners: Contractor is required to run pullout tests to verify conditions of deck or wall substrate(s) and to confirm pullout values.

3.03 VAPOR RETARDER INSTALLATION

- A. The vapor retarder shall be installed to serve as a vapor retarder and air barrier within the roof system, even though it is referenced as a vapor retarder.
- B. Vertical control/expansion joints through parapet walls shall be sealed with butyl tape or sealant prior to installation of the vapor retarder.
- C. All surfaces to receive the vapor retarder shall be dry prior to installation.
- D. Loosely lay vapor retarder film in a single layer over entire roof deck extending to roof edges and to adjacent walls.
- E. Side and end lap each sheet a minimum of 2" and 6" respectively.
- F. Vapor retarder shall be positively sealed at all edges, penetrations and walls utilizing manufacturer's vapor retarder accessories.
 - 1. Seal laps with continuous strip of tape recommended by the vapor retarder manufacturer.
 - 2. Penetrations:
 - a. Round Pipes: Seal with a pre-manufactured pipe boot if available by the manufacturer of the vapor retarder. If pre-manufactured boots are not available, tape, butyl tape, and/or adhesive shall be used to seal the vapor retarder to the vent pipe.
 - b. Curbs: Seal using tape, butyl tape, or adhesive to seal the vapor retarder to the side walls of the curb.
 - 3. Roof Drains: Seal vapor retarder to exterior side of the drain bowl with tape or butyl tape.
 - 4. Seal at roof edges with butyl tape or adhesive.

3.04 ROOF BOARD INSULATION INSTALLATION

- A. No more insulation should be installed than can be covered by the roofing system that day, or before inclement weather occurs.
- B. Application shall be in accordance with the insulation and roof system manufacturer's instructions, and additional requirements of the project specifications and drawings.
- C. All insulation to be in full sheets, carefully fitted against adjoining sheets to form tight joints.
- D. On steel roof decks, rigid insulation boards, if rectangular, should be placed with their longer dimension edges supported on the top flanges of the steel roof deck. The insulation boards placed directly over steel roof deck should not cantilever over the open steel deck flutes.
- E. Edges of the insulation boards shall be mitered at ridges, hips, valleys, and elsewhere to prevent open joints or irregular surfaces. Edges shall be butted to produce moderate contact but not deformed. Ridge and open joints require full thickness polyisocyanurate spray foam closure.
- F. Long joints will be laid continuous and short joints staggered. The joints in each layer shall be offset 12" in order to avoid a vertically continuous joint through the total insulation thickness.
- G. The roof insulation shall be adhered and/or mechanically secured to the substrate as indicated on the project drawings, the roof system manufacturer's requirements, and the submittals as required to comply with the Performance Requirements of the specifications.
- H. Mechanically fastened insulation shall be secured to structural roof deck with a minimum number of fasteners indicated on the project drawings and as required by the roof system manufacturer as required to comply with the Performance Requirements of the specifications. The board size shall be a maximum of 4' x 8'. Provide additional fasteners as required to conform insulation to contours of roof structure in a sound manner.
- I. Adhered insulation assemblies shall utilize a two-part adhesive applied to the substrate using a ribbon pattern. The roof insulation, substrate board, and cover boards shall be a maximum of 4' x 4'. The ribbons shall be a minimum of $\frac{3}{4}$ " wide, and spaced as indicated on the project drawings. Apply deck primer as required by the material manufacturer. As adhesive is applied, allow the adhesive to rise prior to placing the insulation board into wet adhesive, unless otherwise recommended by the adhesive manufacturer. Do not allow the adhesive to "skin over". Do not use when the substrate or ambient temperature is below 45 degrees Fahrenheit. The insulation board shall be weighted down, as necessary, and walked-in. Walking-in the boards alone is not acceptable. Apply deck primer as required by the adhesive manufacturer.
- J. Tapered Insulation Requirements:
 - 1. It is the intent of this section to provide positive roof drainage by way of saddles

and crickets, roof sumps, fully tapered insulation system, and other specified areas of tapered insulation as shown on the roof plan. Where fully tapered insulation systems are shown, they shall drain the roof completely within 48 hours after the latest rainfall. The maximum depth of allowable ponding shall be one-fourth inch (1/4") at any time, prior to the 48-hour period for complete drainage.

2. Installation of tapered insulation shall meet the minimum design intent as indicated on the project drawings relating to tapered insulation requirements.
3. Roof saddles and crickets shall have a maximum one-eighth-inch (1/8") step from toe of tapered insulation to substrate insulation. A tapered starter strip of polyisocyanurate tapered insulation is acceptable to complete the transition between flat and tapered insulation.
4. Roof saddles and crickets shall be installed up-slope of rooftop units with a dimension of four feet (4') or larger, perpendicular to the roof slope.
5. All tapered insulation components shall be compatible with existing roof membrane substrate and new roof membrane system. Where required by the manufacturer, provide slip or separation layers.
6. The tapered insulation system shall provide a smooth, continuous, minimum 1/8" per linear foot slope (high point to drain) in all valley lines, inclusive of saddles and crickets.

3.05 COVER BOARD

- A. Install substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Butt substrate boards together as recommended by the board manufacturer.
 1. Adhere substrate board to roof insulation to resist uplift pressure at corners, perimeter, and field of roof according to roof system manufacturer's written instructions and as required to meet "Performance Requirements".

3.06 POLYURETHANE FOAM SEALANT (FOAM SPRAY)

- A. Install polyurethane foam sealant at the following applicable locations:
 1. Between perimeter of insulation board and nailers.
 2. Between nailers and vertical walls.
 3. Between penetrations and insulation boards.
 4. Between voids in insulation boards, inclusive of roof system slope transition conditions.
- B. All Voids to be filled to match full thickness of insulation boards or as indicated on project drawings.
- C. Provide polyurethane foam sealant produced by or acceptable to the roofing system/insulation system manufacturer.

- D. Utilize Great Stuff Pro Application Gun (or equal) with metal extension nozzle for applications requiring products used to fill gaps less than 1/2". Apply in accordance with manufacturer instructions inclusive of cleaning instructions.
- E. Once foam has cured (approximately 5 minutes), remove any overspray with a roofing knife. If additional shaping is required, cut the cured foam with a handsaw.
- F. During application, the foam exerts force as it expands. Monitor the amount of foam installed to avoid overfilling restricted spaces.

3.07 HOT STACK PENETRATIONS

- A. Completely fill the space between the inner flue and exterior heat shroud of all hot/heated stack penetrations with high temperature ceramic fiber insulation used as a heat separator. Secure in place and provide support utilizing metal wire hangers from below.

3.08 COMPLETION

- A. Correction of Work

Work which does not conform to specified requirements including tolerances, slopes and finishes shall be corrected and/or replaced as directed by Design Professional at Contractor's expense without extension of time. Therefore, Contractor shall also be responsible for cost of correction to any work affected by or resulting from corrections to work of this section.

- B. Site clean-up, including both interior and exterior building areas that have been affected by construction, shall be restored to pre-construction condition.

All landscaped areas affected by construction activities shall be raked clean, seeded, or restored to pre-construction condition.

- C. All manufacturers' on-site inspection reports shall be submitted prior to final payment.
- D. All guaranties, as required in Part 1 of this specification, shall be submitted for approval prior to final payment.

END OF SECTION 07 22 16 – ROOF BOARD INSULATION

07 24 19

WATER-DRAINAGE EXTERIOR INSULATION AND FINISH SYSTEM**PART 1 – GENERAL****1.01 GENERAL REQUIREMENTS**

- A. The provisions of the General Conditions and the Sections included under Division 1 - General Requirements, are included as part of this Section as though bound herein.

1.02 SCOPE OF WORK

- A. Work of this section shall provide Owner with a functional weathering surface by: 1. Installing an Exterior Insulation and Finish System (EIFS), inclusive of air and moisture barrier and related flashings and 2. Resurfacing an existing EIFS surface to repair minor surface defects, provide a new base coat and reinforcing mesh, and provide a new finish coat to provide a uniform appearance and color.
- B. Items covered by this specification section:
1. Air and Moisture Barrier
 2. Insulation Board
 3. Base Coat
 4. Reinforcing Mesh
 5. Finish Coat
 6. Accessories

1.03 UNIT PRICE WORK

- A. The following work shall be added or deleted on a unit price basis in accordance with the requirements of Section 00 41 13. Where required, the scope of work per unit price shall be jointly assessed and agreed upon between the Design Professional and Contractor.
1. N/A

1.04 RELATED SECTIONS

Division 1	General Requirements
02 41 19	Selective Demolition
06 10 53.01	Rough Carpentry for Roofing
07 31 13	Asphalt Shingles
07 53 23	Ethylene-Propylene-Diene-Monomer (EPDM) Roofing
07 62 00	Sheet Metal Flashing and Trim
07 92 00	Joint Sealants

1.05 REFERENCES

- A. American Society of Testing and Materials (ASTM)
1. C297 – Standard Test Method for Flatwise Tensile Strength of sandwich Constructions

2. C578 - Specification for Preformed, Cellular Polystyrene Thermal Insulation
 3. C1063 – Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster
 4. C1397 – Standard Practice for Application of Class PB Exterior Insulation and Finish System
 5. D1784 - Specification for Rigid Poly (Vinyl Chloride) (PVC) and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
 6. D2247 - Practice for Testing Water Resistance of Coatings in 100% Relative Humidity
 7. E84 - Test Method for Surface Burning Characteristics of Building Materials
 8. E96 - Test Methods for Water Vapor Transmission of Materials
 9. E119 - Method for Fire Tests of Building Construction and Materials
 10. E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
 11. E1233 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Cyclic Static Air Pressure Difference
 12. C1397 – Standard Practice for Application of Class PB Exterior Insulation and Finish Systems
 13. E2110 – Standard Terminology for Exterior Insulation and Finish Systems (EIFS)
 14. E2178 – Standard Test Method for Air Permeance of Building Materials
 15. E2357 – Standard Test Method for Determining Air Leakage of Air Barrier Assemblies
 16. E2430 - Specification for Expanded Polystyrene (EPS) Thermal Insulation Boards for use in Exterior Insulation and Finish Systems (EIFS)
 17. E2485 - Standard Test Method for Freeze/Thaw Resistance of Exterior Insulation and Finish Systems (EIFS) and Water Resistive Barrier Coatings
 18. G153 - Recommended Practice for Operating Light-and Water-Exposure Apparatus (Carbon-Arc Type) for Exposure of Nonmetallic Materials
 19. G155 – Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials
- B. EIFS Industry Members Association (EIMA)
1. Guide to Exterior Insulation & Finish System Construction
- C. International Code Council (ICC)
1. AC235 – Acceptance Criteria for EIFS Clad Drainage Wall Assemblies
- D. National Fire Protection Association (NFPA) Standards
1. NFPA 268: “Standard Test Method for Determining Ignitability of Exterior Wall Assemblies Using a Radiant Heat Energy Source”
 2. NFPA 285: “Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus”

1.06 DEFINITIONS

- A. EIFS Terminology: See ASTM E2110 – Standard Terminology for Exterior Insulation and Finish Systems (EIFS)

- B. Impact Resistance:
 - 1. Standard Impact Resistance, 25-49 in-lbs Impact Range
 - 2. Medium Impact Resistance, 50-89 in-lbs Impact Range
 - 3. High Impact Resistance, 90-150 in-lbs Impact Range
 - 4. Ultra-High Impact Resistance, >150 in-lbs Impact Range

1.07 PERFORMANCE REQUIREMENTS

- A. Material Compatibility: Provide EIFS materials that are compatible with one another and the substrate as demonstrated by the EIFS manufacturer based on testing and field experience.
- B. Moisture Control: Prevent the accumulation of water behind the EIFS, either by condensation or leakage through the wall construction, in the design and detailing of the wall assembly.
 - 1. Provide flashing to direct water to the exterior where it is likely to penetrate components in the wall assembly, including, above window and door heads, beneath window and door sills, at roof/wall intersections, decks, abutments of lower walls with higher walls, above projecting features, and at the base of the wall.
 - 2. Provide continuity of air barrier system at foundation, roof, windows, doors and other penetrations through the system with connecting and compatible air barrier components to minimize condensation and leakage caused by air movement.
- C. System to meet the performance and testing requirements of the International Code Council Acceptance Criteria AC 235
- D. Wind Resistance: The EIFS assembly shall be installed to resist the following wind loads:
 - 1. Zone 4 (Wall Field Areas) = +20.0/-22.0 psf.
 - 2. Zone 5 (Wall Corner Areas) = +20.0/-27.0 psf.
- E. Impact Resistance Classification: Provide impact resistance as follows:
 - 1. Within 6' of grade = Ultra High Impact Resistance
 - 2. 6' above grade and higher = Standard Impact Resistance
- F. Fire-Test Response Characteristics: Provide EIFS with the fire-test response characteristics indicated as determined by identical products per test method indicated below by UL, NFPA, or other testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
 - 1. ASTM E84: Flame spread < 25; Smoke Density < 450
 - 2. ASTM E 119: Pass
 - 3. NFPA 268: Pass
 - 4. NFPA 285: Pass

1.08 REUTILIZED MATERIALS

- A. The following items shall be assumed to be fully salvageable and reusable:

1. Existing EIFS system where it is not specified for removal and replacement.
2. Existing window system.

1.09 SUBMITTALS

Submit in accordance with Section 01 33 00:

A. Product Data:

1. Submit specifications, installation instructions, and general recommendations from EIFS materials manufacturers. Include data substantiating that materials comply with requirements.

B. Shop Drawings:

1. Submit shop drawings showing all EIFS flashing conditions, including but not limited to perimeter conditions, penetration conditions, expansion joints, etc.

C. Product Samples:

1. System Assembly: 12" x 12"
2. Reinforcing Mesh: 6" x 6"
3. Trim Pieces: 6" length
4. Insulation: 6" x 6"

D. Material Safety Data Sheets (MSDS) for all materials.

1. Submit an MSDS sheet for each material that will be utilized on-site.

E. Manufacturer Certification:

1. Submit certification signed by EIFS manufacturer stating that contractor is approved, authorized, or licensed to install EIFS specified and receive the specified warranty.

F. Sample Warranty:

1. Submit copy of the warranty from the EIFS manufacturer.

G. Mock-Up:

1. Build an in-place mock-up to verify flashing conditions. This mock-up shall be inspected by the Design Professional prior to proceeding with additional work. Revise the mock-up until the flashing conditions are satisfactory to the Design Professional and comply with the project requirements.
2. Build 12" x 12" mock-up samples for the selection of finish colors and textures. Retain the mock-up until final completion and acceptance of the project.

1.10 QUALITY ASSURANCE

- A. Source Limitations: Obtain air and moisture barrier, insulation adhesive, board insulation, base coat, mesh, finish coat, and accessories from a single manufacturer for each product required, unless approved by the Design Professional.
- B. EIFS Standard: ASTM C1397 – Standard Practice for Application of Class PB Exterior Insulation and Finish Systems.
- C. Contractor Qualifications:
 - 1. A firm that has been engaged in installing Water-Drainage EIFS for a minimum of five (5) years.
 - 2. Must have attended manufacturer's Educational/Installation Seminar.
 - 3. Must be experienced and competent in installation of plaster-like materials.
 - 4. Employ skilled mechanics who are experienced and knowledgeable in EIFS application, and familiar with the requirements of the specified work.
 - 5. Successful completion of minimum of three (3) projects of similar size and complexity to the specified project.
- D. Manufacturer Qualifications: A firm experienced in manufacturing Water-Drainage EIFS for a minimum of ten (10) years. All EIFS assembly materials must be manufactured or sold by a single-source manufacturer and must be purchased directly from the EIFS manufacturer or its authorized distributor.
- E. Environmental Standard: Manufacturer and contractor shall conform to Federal, State, and Local V.O.C. (Volatile Organic Compound) Regulations in area where the project is located. Notify Design Professional in writing if variations to the Contract Documents are required to comply with these regulations.

1.11 DELIVERY, STORAGE, AND HANDLING

- A. All products delivered to the site shall be in the original unopened containers with manufacturer's identification intact.
- B. Handle all materials to prevent damage. Store materials elevated sufficiently off the ground and fully protected from moisture. Materials shall be secured in a safe manner to prevent damage. Material shall be covered with opaque tarps, secured to prevent displacement by wind forces.
- C. Stack all insulation board flat from direct sunlight.
- D. Protect coatings (pail products) from freezing and temperatures in excess of 90°F (32° C). Store away from direct sunlight.
- E. Materials determined by the Design Professional to be damaged or to have been subjected to adverse conditions shall be removed and replaced at Contractor's expense.
- F. Protect Portland cement-based materials (bag products) from moisture and humidity. Store under cover off the ground in a dry location.

1.12 WEATHER LIMITATIONS ON WORK

- A. EIFS work shall not be done during precipitation and shall not be started in the event there is a high probability of precipitation during the ongoing work.
- B. Maintain ambient and surface temperatures above 40°F (4°C) during application and curing/drying period, minimum 24 hours after application of Air/Moisture barrier and EIFS.
- C. Substrate Temperature: Do not apply materials to substrates whose temperatures are below 40° F or contain frost or ice.
- D. Sunlight Exposure: Avoid, when possible, installation of the materials in direct sunlight. Application of Acrylic Finishes in direct sunlight in hot weather may adversely affect aesthetics.
- E. Materials shall not be applied if ambient temperature exceeds 120°F (49°C) or falls below 40°F (4°C) within 24 hours of application. Protect materials from uneven and excessive evaporation during hot, dry weather.
- F. Prior to installation, the substrate shall be inspected for surface contamination, or other defects that may adversely affect the performance of the materials and shall be free of residual moisture.

1.13 PROJECT CONDITIONS (CAUTIONS AND WARNINGS)

- A. Protect all surrounding areas and surfaces during application of the wall system.
- B. Provide adequate protection on all unfinished wall assemblies to prevent water penetration behind the system.

1.14 MANUFACTURER'S REPRESENTATIVE

- A. Contractor shall require the presence of a Technical Representative of the EIFS membrane manufacturer to provide field instructions and supervision during the duration of the work, as required by the manufacturer for a guaranteed job.
- B. In addition, Design Professional may require the presence of the Technical Representative of the EIFS manufacturer, as necessitated by the work progress.
- C. The Technical Representative shall be employed by the EIFS manufacturer.

1.15 GUARANTEES AND MAINTENANCE

- A. Provide Manufacturer's Standard EIFS System Warranty for covering labor and material for a minimum period of ten (10) years.

PART 2 – MATERIALS

2.01 EXTERIOR INSULATION AND FINISH SYSTEM (EIFS) MANUFACTURERS

- A. All components of the EIFS specified shall be obtained from the manufacturer or its approved distributors.

- B. Performance Requirements:
 - 1. Accelerated Weathering (ASTM G153/G155): Pass
 - 2. Freeze-Thaw Resistance (ASTM E2485): Pass
 - 3. Water Penetration (ASTM E331): Pass
- C. Materials distributed by the following EIFS materials manufacturers and otherwise conforming with these specifications are acceptable:
 - 1. Manufacturers:
 - a. Sto Corporation; Atlanta, GA (Basis of Design)
 - b. Dry-Vit Systems, Inc.; West Warwick, RI
 - c. Parex, Inc., Anaheim, CA

2.02 AIR AND MOISTURE BARRIER

- A. A ready-mixed flexible waterproofing air barrier membrane that can be utilized as part of the EIFS assembly and allow the board insulation to be adhered to the air and moisture barrier.
- B. Performance Requirements:
 - 1. Durability (ASTM E1233/E72/E331): No cracking or water penetration
 - 2. Water Resistance (ASTM D2247): No deleterious effects
 - 3. Water Vapor Transmission (ASTM E96, Method B): > 10 perms
 - 4. Air Leakage (ASTM E2178): ≤ 0.004 cfm/ft² at 1.57 psf
 - 5. Air Leakage (ASTM E2357): ≤ 0.04 cfm/ft² at 1.57 psf
 - 6. Freeze-Thaw (ASTM E2485): No delamination or surface changes
 - 7. Tensile Bond (ASTM C297): Greater than 15 psi
- C. Accessories:
 - 1. Joint Treatment – Manufacturer's joint treatment used with or without reinforcing mesh.
 - 2. Detail Flashing – Manufacturer's trowel or knife-grade transition material for use with mesh as transition at flashing, windows, mechanical penetrations and at system terminations.
 - 3. Tape - Fabric-faced, self-adhesive modified asphaltic flashing tape for use with fluid applied waterproof coating for transition at flashing, windows, mechanical penetrations and at system terminations.
 - 4. Fabric - Non-woven fabric tape for use with fluid-applied waterproof air barrier coating as a transition element by embedment of the fabric into fluid-applied coating.
- D. Products:
 - a. Sto Corporation; Atlanta, GA (Gold Coat or Emerald Coat)
 - b. Dry-Vit Systems, Inc.; West Warwick, RI (Backstop NT)
 - c. Parex, Inc., Anaheim, CA (WeatherSeal)

2.03 ADHESIVE

- A. A lightweight factory blended one-component polymer modified Portland cement based high build adhesive approved for use with the specified insulation board and air and moisture

barrier.

2.04 INSULATION BOARD

- A. Expanded Polystyrene (EPS): Insulation board conforming to ASTM E2430 and ASTM C578, Type I requirements.
- B. Dimensional Requirements as recommended by EIFS manufacturer.
 - 1. Thickness: 2", or as required to match the existing EIFS thickness.
 - 2. Edge Trueness: Unless otherwise specified and approved, the insulation and finish system manufacturer, insulation board shall be furnished with true edges. Edges shall not deviate more than 1/32" in 12".
 - 3. Face Flatness: Insulation board shall be furnished flat and shall not exhibit any bowing of more than 1/32" in the length.
 - 4. Squareness: Insulation board shall not deviate from squareness by more than 1/32" in 12" of total length or width.

2.05 BASE COAT

- A. Factory blended one component polymer modified cement based high build base coat.
- B. Products
 - a. Sto Corporation; Atlanta, GA (BTS Plus or BTS Xtra)
 - b. Dry-Vit Systems, Inc.; West Warwick, RI (Genesis DM or Primus DM)
 - c. Parex, Inc., Anaheim, CA (Parex 121)

2.06 REINFORCING MESHES

- A. Standard Impact Mesh
 - 1. Nominal 4.5 oz./yd², symmetrical, interlaced open-weave glass fiber fabric made with alkaline resistant coating for compatibility with EIFS materials.
- B. Ultra-High Impact Mesh
 - 1. Nominal 15 oz./yd², high impact, double strand, interwoven, open-weave glass fiber fabric with alkaline resistant coating for compatibility with EIFS materials.
- C. Specialty Meshes
 - 1. Detail Mesh - Nominal 4.2 oz/yd², flexible, symmetrical, interlaced glass fiber fabric, with alkaline resistant coating for compatibility with EIFS materials. Used for standard EIFS backwrapping, aesthetic detailing, and reinforcement of sheathing joints and protection of rough openings with air and moisture barrier.

2.07 PRIMER

- A. EIFS manufacturer's acrylic based tintable primer for spray application. For roller applications a sanded primer can be utilized.

2.08 FINISH COAT

- A. Factory blended, 100% acrylic polymer based elastomeric textured finish, integrally colored by EIFS manufacturer.
 - 1. Finish Type: To match existing.
 - 2. Texture: To match existing.
 - 3. Color: To match existing.
- B. Products
 - 1. Sto Corporation; Atlanta, GA (Essence DPR)
 - 2. Dry-Vit Systems, Inc.; West Warwick, RI (DPR Finish)
 - 3. Parex, Inc., Anaheim, CA (Standard DPR Acrylic Finish)

2.09 JOB MIXED INGREDIENTS

- A. Water: Clean and potable.

2.10 AUXILIARY MATERIALS

- A. Drainage Strip: A corrugated high impact polystyrene material, which is used to provide drainage at the base of walls, heads of windows and floor line expansion joints.

2.11 REJECTED MATERIALS

- A. The Design Professional shall have the right to inspect all materials brought to or stored at the job site. Those materials which do not comply with the above requirements shall be removed from the Owner's premises within two (2) hours of verbal notification to the person designated by the Contractor to be the lead on-site supervisor. The verbal notification to be by the Design Professional, which will be followed by written confirmation.

PART 3 - EXECUTION**3.01 INSPECTION**

- A. A pre-job conference including the Design Professional, Owner's Representative, Contractor, the manufacturer's representative and all involved trades shall be conducted prior to commencement of the EIFS work.
- B. Examine the substrate and the conditions under which the work is to be performed. Do not proceed until unsatisfactory conditions have been corrected as required for the material application and in accordance with the material manufacturer's specifications and requirements. Surfaces to receive EIFS material components are to be clean, even, smooth, dry and free from defects and projections which might adversely affect the application.
- C. Notify the Design Professional in writing to all conditions which may adversely affect the installation and/or performance of the EIFS system prior to commencing with the work. Proceed with installation only after unsatisfactory conditions have been corrected. Application of any part of the EIFS shall indicate acceptance of the wall surface and acknowledgment of full responsibility for the quality and durability of the EIFS.

- D. Inclined surfaces shall have a minimum slope of six inches (6") of vertical rise in 12" of horizontal run. For sloped surfaces, run of slope shall be a maximum of 12".
- E. Contractor shall verify that work penetrating the wall, or which may otherwise affect the EIFS has been properly completed.

3.02 PREPARATION

- A. Remove surface contaminants on concrete, concrete masonry, gypsum sheathing, or coated gypsum sheathing surfaces.
- B. Level surfaces to comply with required tolerances.
- C. Apply conditioner by sprayer or roller to chalking or excessively absorptive surfaces.
- D. Fill large gaps between sheathing and voids around pipe, conduit, scupper, and similar penetrations with spray foam and shave flush with surface.

3.03 INSTALLATION

- A. General:
 - 1. Installation shall be performed in accordance with EIFS manufacturer's published instructions.
- B. Air and Moisture Barrier Installation:
 - 1. Transition Detailing – Detail transition areas, rough openings, penetrations, etc. with the specified air and moisture barrier system.
 - 2. Sheathing Joint Treatment – Treat all sheathing joints with the manufacturer's joint treatment material.
 - 3. Fastener Head Treatment – Treat all fasteners heads, if required by the manufacturer, with the manufacturer's air and moisture barrier flashing material.
 - 4. Air and Moisture Barrier Installation:
 - a. Spray or roller apply the air and moisture barrier coating. During the application, the coating wet mil thickness shall be checked periodically with a wet mil thickness gauge.
 - b. Protect the air and moisture barrier from weather (i.e. rain, mist, freezing temperatures, etc.) until it has cured.
 - 5. Flashing Conditions – At flashing conditions, after the installation of the flashing component (i.e. sheet metal, PVC, etc.) apply additional air and moisture barrier material and reinforcing mesh over the concealed flange of the flashing material.
- C. Backwrapping:
 - 1. Apply a strip of detail mesh to the dry air and moisture barrier at all system terminations (windows, doors, expansion joints, etc.) except where the Starter Track is installed. The mesh must be wide enough to adhere approximately 4 inches of mesh onto the wall, be able to wrap around the insulation board edge and cover a minimum of 2 1/2 inches on the outside surface of the insulation board. Adhere mesh strips to the air and moisture barrier and allow them to dangle until the

backwrap procedure is completed. Alternatively, pre-wrap terminating edges of insulation board.

2. Complete the backwrapping procedure by applying base coat to exposed edges of insulation board and approximately 4 inches onto the face of the insulation board. Pull mesh tight around the board and embed it in the base coat with a stainless-steel trowel. Use a corner trowel for clean, straight lines. Smooth any wrinkles or gaps in the mesh.

D. Insulation Board Installation:

1. Adhesive Application:

- a. Application of insulation board shall start at the base of the wall from a level line of support.
- b. Apply adhesive to the back of the insulation board with the proper size (as recommended by the EIFS manufacturer) stainless-steel notched trowel. Apply uniform ribbons of adhesive parallel with the SHORT dimension of the board so that when boards are placed on the wall the ribbons will be VERTICAL. Apply adhesive uniformly so ribbons of adhesive do not converge. Make sure ribbons of adhesive are full and reach the edges of the insulation board.
- c. Immediately place insulation boards in a running bond pattern on the wall with the long dimension horizontal. Start by inserting the lower edge of the boards inside the starter track at the base of the wall until they contact the bottom of the track. Apply firm pressure over the entire surface of the boards to ensure uniform contact of adhesive. Bridge sheathing joints by a minimum of 6 inches. Interlock inside and outside corners.
- d. Butt all board joints tightly together to eliminate any thermal breaks in the EIFS. Care must be taken to prevent any adhesive from getting between the joints of the boards.
- e. Cut insulation board in an L-shaped pattern to fit around openings. Do not align board joints with corners of openings.
- f. Remove individual boards periodically while the adhesive is still wet to check for satisfactory contact with the substrate and the back of the insulation board, and for spacing between ribbons of adhesive. An equal amount of adhesive must be on the substrate and the board when they are removed, as an indication of adequate adhesion. Do not use nails, screws, or any other type of non-thermal mechanical fastener.
- g. Allow insulation board and adhesive to dry for 24 hours.

E. Slivering and Rasping of Insulation Board Surface:

1. EPS insulation board exposed to sunlight will develop a powdery residue on the surface. This residue must be entirely removed by rasping the surface.
2. After insulation boards are firmly adhered to the substrate, fill any open joints in the insulation board layer with slivers of insulation or closed-cell spray foam insulation. Use spray foam that is identified by the spray foam manufacturer as suitable for this use.
3. Rasp the insulation board surface to achieve a smooth, even surface and to remove any ultraviolet ray damage.

F. Trim, Reveals and Projecting Aesthetic Features:

1. Attach features and trim, where designated on drawings, with adhesive to the insulation board or sheathing surface. Slope the top surface of all trim/features minimum 1:2 (27°) and the bottom of all horizontal reveals minimum 1:2 (27°).
2. Cut reveals/aesthetic grooves with a hot-knife, router or groove-tool in locations indicated on drawings.
3. Offset reveals/aesthetic grooves minimum 3 inches from insulation board joints.
4. Do not locate reveals/aesthetic grooves at high stress areas such as corners of windows, doors, etc.
5. A minimum 3/4-inch thickness of insulation board must remain at the bottom of the reveals/aesthetic grooves.

G. Base Coat and Reinforcing Mesh Application:

1. Backwrapping of exposed edges of insulation board shall be completed prior to application of reinforcing mesh and basecoat/adhesive to the field of insulation board.
2. Insulation board shall be flat, clean and free of any deleterious material before base coat is applied.
3. Apply minimum 9" x 12" inch diagonal strips of detail mesh at corners of windows, doors, and all penetrations through the system. Embed the strips in wet base coat and trowel from the center to the edges of the mesh to avoid wrinkles.
4. Apply detail mesh at trim, reveals and projecting architectural features. Embed the mesh in the wet base coat. Trowel from the base of reveals to the edges of the mesh.
5. High impact mesh application (required 6' above grade and where indicated on project drawings): Apply base coat over the insulation board with spray equipment or a stainless-steel trowel to a uniform thickness of approximately 1/8 inch. Work horizontally or vertically in strips of 40 inches and immediately embed the mesh into the wet base coat by troweling from the center to the edge of the mesh. Butt the mesh at seams. Allow the base coat to dry.
6. Standard mesh application: Apply base coat over the insulation board, including areas with Ultra-High impact mesh, with spray equipment or a stainless-steel trowel to a uniform thickness of approximately 1/8 inch. Work horizontally or vertically in strips of 40 inches, and immediately embed the mesh into the wet base coat by troweling from the center to the edge of the mesh. Overlap mesh not less than 2 1/2 inches at mesh seams and at overlaps of detail mesh. Feather seams and edges. Double wrap all inside and outside corners with minimum 2 1/2-inch overlap in each direction. Avoid wrinkles in the mesh. The mesh must be fully embedded so that no mesh color shows through the base coat when it is dry. Re-skim with additional base coat if mesh color is visible.
7. Sloped Surfaces: Trim, reveals, aesthetic bands, cornice profiles, sills or other architectural features that project beyond the vertical wall plane more than 2 inches, apply waterproof base coat with a stainless-steel trowel to the weather exposed sloped surface and minimum four inches above and below it. Embed standard mesh or detail mesh in the waterproof base coat and overlap mesh seams a minimum of 2 1/2 inches.
8. Allow base coat to thoroughly dry before applying primer or finish.

H. Primer Application:

1. Apply primer evenly with brush, roller or proper spray equipment over the clean, dry base coat and allow to dry thoroughly before applying finish.

I. Finish Coat Application:

1. Apply finish directly over the base coat or primed base coat when dry (minimum of 24 hours). Apply finish by spraying or troweling with a stainless-steel trowel, depending on the finish specified on approved samples. Follow these general rules for application of finish:
 - a. Avoid application in direct sunlight.
 - b. Apply finish in a continuous application, and work to an architectural break in the wall.
 - c. Weather conditions affect application and drying time. Hot or dry conditions limit working time and accelerate drying. Adjustments in the scheduling of work may be required to achieve desired results; cool or damp conditions extend working time and retard drying and may require added measures of protection against wind, dust, dirt, rain and freezing. Adjust work schedule and provide protection.
 - d. Do not install separate batches of finish side-by-side. Use sufficient manpower and equipment to ensure a continuous operation, always maintain a wet edge to insure a uniform appearance.
 - e. Do not apply finish into locations where sealant is to be applied or over sealant joints. Apply finish to outside face of wall only.
 - f. Do not apply finish over irregular or unprepared surfaces, or surfaces not in compliance with the requirements of the project specifications.

J. Mixing:

1. General: Mix the adhesive, base coat, finish coat, etc. in accordance with the manufacturer's recommendations.
2. Adhesive and Base Coat Mixture: Pre-blended base coat and adhesive shall not have Portland cement added to the mixture. Mix by adding water to a clean mixing pail, the adding the pre-blended material and mix to a uniform consistency and allow to set for approximately 5 minutes. Adjust the mix, if necessary, as recommended by the manufacturer and remix to a uniform trowel consistency. Avoid retempering. Keep mix ratio consistent. Do not exceed the manufacturer's maximum recommended amount of water in the mix ratio.
3. Mix base coat and adhesive per manufacturer's instructions.
4. Wood Adhesive: Mix briefly with 1/2" clean, rust-free paddle until smooth consistency is achieved.
5. Finishes: Mix in original container using 1/2", heavy-duty drill with clean, rust-free paddle until material is uniform. Small amounts of water may be added to assist workability. Any water added to finish must be measured and repeated with each pail to ensure color and texture consistency. Follow manufacturer's instructions.

K. Protection:

1. Promptly flash and/or seal system terminations to prevent water infiltration. Immediately cover top of walls to prevent water infiltration. Provide protection of installed materials from water infiltration into or behind them.
2. Provide protection of installed materials from dust, dirt, precipitation, freezing and continuous high humidity until they are fully dry.

3.04 EIFS RESURFACING

- A. General: Installation shall be performed in accordance with EIFS manufacturer's published instructions.
- B. Inspection: Inspect the EIFS surface for any damage or deterioration that requires full depth repairs and notify Design Professional with locations and quantities of damage or deterioration that requires full depth repairs.
- C. Cleaning: Remove dirt, algae or any other surface contamination. Generally, a trisodium phosphate detergent shall be utilized to remove dirt with the addition of bleach as necessary to remove algae or mildew. All cleaning shall be completed as recommended by the EIFS manufacturer.
- D. Repairs: Prior to the resurfacing the EIFS, repair any minor surface repairs (i.e. cracks, impacts, holes, etc.) per the manufacturer's recommendations.
- E. Apply base coat to the entire surface with a stainless-steel trowel to a uniform thickness of approximately 1/8". Work horizontally or vertically in strips of 40" and immediately embed the mesh into the wet base coat by troweling from the center to the edge of the mesh. Overlap mesh not less than 2-1/2" at mesh seams and feather seams and edges. Allow to dry.
- F. Apply finish coat with stainless-steel trowel to a rough thickness slightly more than the largest aggregate size. Use the trowel to scrape down to a uniform thickness no greater than the largest aggregate size. Achieve final texture by floating with a trowel in a figure eight motion. Use a plastic float for a rilled texture finish. The finish texture is to match the existing finish texture.

3.05 SEALANT JOINT REPLACEMENT

- A. General: Replacement shall be performed in accordance with EIFS manufacturer's and sealant manufacturer's published instructions.
- B. Sealant Removal:
 1. Slice along the terminating edges of the distressed sealant with a sharp knife to separate the sealant from the EIFS finish or base coat material. Take care not to cut into the EIFS materials.

2. Pull the sealant and backer rod material from the joint. Remove the EIFS finish coat (if present in the joint) by grinding with a handheld grinder or by softening with a water-based gel type paint remover and then scraping to remove it. Take care not to damage the EIFS finish on the face of the wall. Mask the wall surface if using a gel type paint remover.
3. Remove residue of sealant in the joint by grinding with a handheld grinder, taking care not to damage the EIFS finish on the face of the wall, or to grind through the layer of base coat in the joint and damage the EIFS reinforcing mesh.

G. EIFS Repair:

1. Brush or blow away dust on the joint surfaces with oil-free compressed air.
2. Apply skim coat of base coat to the prepared joint surfaces to create a smooth surface free of ridges such that it completely hides the reinforcing mesh color. Avoid heavy applications of base coat. A thin coat, approximately 1/32" is sufficient. Protect base coat from rain and freezing until dry.

H. Sealant Joint Application:

1. Brush or blow the joint surface clean with oil-free compressed air. Mask adjacent EIFS finish on the face of the wall. The prime with the sealant manufacturer's primer, if required, and allow to dry.
2. Install closed cell backer rod to the proper depth in the joint.
3. Apply sealant joint and tool to ensure intimate contact with the joint surfaces. See Section 07 92 00 Joint Sealants for sealant joint type required.

3.06 WORKMANSHIP, FINISH, AND APPEARANCE AT TIME OF DELIVERY

- A. Defects: Insulation board shall have no defects that will adversely affect its service qualities. It shall be of uniform texture, and free from foreign inclusions, broken edges or corners, slits or objectionable odors.
- B. Crushing and Depressions: Insulation board shall have no crushed or depressed areas on any surface exceeding 1/16" in depth on more than 5% of the total surface area.
- C. Voids: Insulation board shall have no more than 8 voids having dimensions larger than 1/8" x 1/8" per 8 sq. ft. of surface area.

3.07 COMPLETION

A. Correction of Work

1. Work which does not conform to specified requirements including tolerances, slopes and finishes shall be corrected and/or replaced as directed by Owner's Representative at Contractor's expense without extension of time. Contractor shall also be responsible for cost of correction to any work affected by or resulting from corrections to work of this section.

- B. Site clean-up, including both interior and exterior building areas that have been affected by construction, shall be restored to pre-construction condition.

All landscaped areas affected by construction activities shall be raked clean, seeded, or restored to pre-construction condition.

- C. All manufacturers' on-site inspection reports shall be submitted prior to final payment.

- D. All guaranties, as required in Part 1 of this specification, shall be submitted for approval prior to final payment.

END OF SECTION 07 24 19 – WATER-DRAINAGE EXTERIOR INSULATED FINISH SYSTEMS

07 31 13
ASPHALT SHINGLES

PART 1 - GENERAL**1.01 GENERAL REQUIREMENTS**

- A. The provisions of the General Conditions and the Sections included under Division 1 - General Requirements, are included as part of this Section as though bound herein.

1.02 SCOPE OF WORK

- A. Work of this section shall provide Owner with (1) functional weathering surface by applying a asphalt shingles over the properly prepared substrate; (2) appropriate flashings at roof perimeter and roof penetration conditions.
- B. This Section includes the following:
1. Asphalt shingles.
 2. Self-Adhering Underlayments
 3. Miscellaneous shingle accessories

1.03 UNIT PRICE WORK

- A. The following work shall be added or deleted on a unit price basis in accordance with the requirements of Section 00 41 13. Where required, the scope of work per unit price shall be jointly assessed and agreed upon between the Design Professional and Contractor.
1. N/A

1.04 RELATED SPECIFICATIONS

Division 1	General Requirements
02 41 19	Selective Demolition
06 10 53.01	Rough Carpentry for Roofing
07 53 23	Ethylene-Propylene-Diene-Monomer (EPDM) Roofing
07 62 00	Sheet Metal Flashing and Trim
07 72 00	Roof Accessories
26 41 13	Lightning Protection for Structures
32 92 00	Turfs and Grasses

1.05 REFERENCES

- A. American Society of Testing and Materials (ASTM)
1. A153 – Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
 2. D225 – Standard Specification for Asphalt Shingles (Organic Felt) Surfaced With Mineral Granules
 3. D226 – Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing

4. D1079 – Standard Terminology Relating to Roofing and Waterproofing
 5. D1970 – Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
 6. D3161 – Standard Test Method for Wind-Resistance of Steep Slope Roofing Products (Fan-Induced Method)
 7. D3462 – Standard Specification for Asphalt Shingles Made from Glass and Surfaced with Mineral Granules
 8. D4586 – Standard Specification for Asphalt Roof Cement, Asbestos-Free
 9. D4869 – Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing
 10. D6757 – Standard Specification for Underlayment Felt Containing Inorganic Fibers Used in Steep-Slope Roofing
 11. D7158 – Standard Test Method for Wind Resistance of Asphalt Shingles (Uplift Force/Uplift Resistance Method)
 12. E108 – Standard Test Methods for Fire Tests of Roof Coverage
 13. F1667 – Standard Specification for Driven Fasteners: Nails, Spikes, and Staples
- B. Asphalt Roof Manufacturers Association (ARMA)
1. Residential Asphalt Roofing Manual
- C. National Roofing Contractors Association (NRCA)
1. The NRCA Roofing Manual: Architectural Metal Flashing, Condensation and Air Leakage Control, and Reroofing
 2. The NRCA Roofing Manual: Steep-Slope Roof Systems
- D. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA)
1. Architectural Sheet Metal Manual.
- E. Underwriters Laboratories (UL)
1. UL790 – Standard Test Methods for Fire Tests of Roof Coverings
 2. UL2218 – Standard for Impact Resistance of Prepared Roof Covering Materials

1.06 DEFINITIONS

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

1.07 PERFORMANCE REQUIREMENTS

- A. General: Provide installed asphalt shingle roofing system and flashings that remain watertight; do not permit the passage of water; and resist specified wind speed requirements, 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 shingle manufacturer based on testing and field experience.

- C. Wind Up-Lift and Hail Characteristics: Provide a shingle roof system that has been tested in accordance with ASTM D7158 – Classification H OR ASTM D3161 - Classification F.
- D. Fire-Test Response Characteristics: Provide roofing materials with the fire-test response characteristics indicated as determined by testing identical products per ASTM E108 or UL790 for the roof slopes on this project. Identify materials with appropriate markings of applicable testing and inspecting agency.

Exterior Fire-Test Exposure: Class A – For the slopes required for this project.

1.08 REUTILIZED MATERIALS

The following items shall be assumed to be fully salvageable and reusable:

- 1. N/A

1.09 SUBMITTALS

Submit in accordance with Section 01 33 00:

A. Product Data:

- 1. Submit specifications, installation instructions, and general recommendations from roofing materials manufacturers for type of roofing required. Include data substantiating that materials comply with requirements of this specification, inclusive of accelerated weathering data.

B. Shop Drawings:

- 1. Flashing Conditions: Submit shop drawings showing all roof flashing conditions, including but not limited to gutters, perimeter conditions, roof penetration conditions, expansion joints, etc.

C. Product Samples:

- 1. Asphalt Shingle: Full size asphalt shingle strip.
- 2. Self-Adhering Underlayment: 12-inch square sample.
- 3. Ridge and Hip Caps: Full size ridge and hip cap.
- 4. Nails: 10

D. Material Safety Data Sheets (MSDS):

- 1. Submit an MSDS sheet for each material that will be utilized on-site.

E. Manufacturer Certification:

- 1. Submit certification signed by asphalt shingle manufacturer stating that contractor is approved, authorized, or licensed to install roofing system indicated.

F. Sample Warranty:

1. Submit copy of warranty from the roof system manufacturer.

1.10 QUALITY ASSURANCE

A. Contractor Qualifications:

1. The contractor must be approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product that is eligible to receive the specified warranty.
2. The contractor shall have installed a minimum of three (3) projects within the last five (5) years similar in scope to this project.

B. Manufacturer Qualifications:

1. The roof system manufacturer shall have manufactured the specified roofing materials for a minimum of 10-years.

C. Source Limitations: Obtain each roofing shingles, flashing materials, underlayments, ridge caps, hip caps, and accessories from a single manufacturer for each product required, unless approved by the Design Professional.

D. Roofing Standard: Comply with The NRCA Roofing Manual: Steep-slope Roof Systems and the ARMA – Residential Asphalt Roofing Manual, unless more stringent requirements are required by the Contract Documents.

E. Sheet Metal Standard: Comply with the requirements of the SMACNA Architectural Sheet Metal Manual, unless more stringent requirements are required by the Contract Documents.

1.11 DELIVERY, STORAGE, AND HANDLING

A. All products delivered to the site shall be in the original unopened containers, wrappings, or crating. Storage areas will be defined by Design Professional.

B. Average live loads on the roof during the work shall not exceed twenty (20) pounds per square foot at any time.

C. Handle all materials to prevent damage. Store materials elevated sufficiently off the ground and fully protected from moisture. Materials shall be secured in a safe manner to prevent damage. Roll goods shall be stored on end. Material shall be covered with opaque tarps, secured to prevent displacement by wind forces.

D. Store temperature susceptible materials in a dry and heated area between 60° F and 80° F. If exposed to lower or higher temperatures, the material shall be discarded and new material provided at no cost to the Owner.

E. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Closely follow precautions/instructions outlined on container or supplied by manufacturer/supplier (MSDS sheets).

1.12 WEATHER LIMITATIONS ON WORK

- A. Roofing work shall not be done during precipitation and shall not be started in the event there is a high probability of precipitation during the ongoing work.
- B. At ambient temperatures of 40 degrees F and below, including wind-chill, precautions must be taken to ensure that temperature-susceptible materials maintain their minimum acceptable temperature at the point of application as recommended by the roofing materials manufacturer.
- C. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit asphalt shingles and underlayments to be performed according to manufacturer's written instructions and warranty requirements.

1.13 PROJECT CONDITIONS (CAUTIONS AND WARNINGS)

- A. Roofing Contractor shall implement all necessary precautions to prevent debris or materials/equipment from becoming airborne due to wind conditions anticipated at the site. All roof removal materials shall be removed from the roof by an enclosed chute to the ground level. Contractor shall conform to all regulations and precautions as required by applicable safety organizations.

1.14 MANUFACTURER'S REPRESENTATIVE

- A. Roofing Contractor shall require the presence of a Technical Representative of the roofing membrane manufacturer to provide field instructions and supervision during the duration of the work, as required by the manufacturer for a guaranteed job.
- B. In addition, Design Professional may require the presence of the Technical Representative of the roofing material manufacturer, as necessitated by the work progress.
- C. The Technical Representative shall be employed by the roofing material manufacturer. We recommend the roofing material manufacturer designate one (1) Technical Representative for the duration of the project.

1.15 GUARANTEES AND MAINTENANCE

- A. Asphalt Shingle Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace asphalt shingles that fail in materials or workmanship within specified warranty period. Material failures include manufacturing defects and failure of asphalt shingles to self-seal after a reasonable time.
 - 1. Labor and Material: The manufacturer's extended labor and material warranty (non-prorated) for a period of 10 years from date of Contract Completion for manufacturing defect coverage. The warranty shall include materials and labor, tear-off, disposal, and workmanship.
 - 2. Material Warranty Period: 50 years from date of Contract Completion, prorated, with first 10 years non-prorated.
 - 3. Wind Speed Warranty Period: Asphalt shingles will resist blow-off or damage caused by wind speeds up to 130 mph for 15 years from date of Substantial

Completion.

4. Algae-Discoloration Warranty Period: Asphalt shingles will not discolor for 25 years from date of Contract Completion.

NOTE: The Effective Date of the Warranties shall not be prior to the date of Substantial Completion.

PART 2 - MATERIALS

2.01 GLASS FIBER REINFORCED ASPHALT SHINGLES

- A. Oversized "Slate Appearance" Shingles: Laminated glass fiber reinforced asphalt shingle meeting ASTM D3462 or ASTM D225. The shingles shall be algae resistant granules, and the shingles shall be self-sealing.
 1. Wind Resistance: ASTM D7158 – Class H or ASTM D3161 – Class F
 2. Weight/Square: 240 lbs.
 3. Shingle Size: 18" x 36"
 4. Color: Basis of Design - CertainTeed – Black Granite
 5. Starter Shingle: Basis of Design – CertainTeed - "High-Performance Starter"; GAF - "WeatherBlocker"
 6. Hip and Ridge Cap Shingles: Basis of Design – CertainTeed - "Cedar Crest"; GAF – "TimberTex"
 7. Manufacturers:
 - a. CertainTeed Corporation, Valley Forge, PA – Highland Slate Shingles – Basis of Design
 - b. GAF Materials Corporation, Parsippany, NJ - Slateline

2.02 UNDERLAYMENT MATERIALS

- A. Self-Adhering Sheet Underlayment: Self-adhering rubberized asphalt with a film laminated to the top surface. The material shall meet ASTM D1970.
 1. Thickness: 40 mils
 2. Exposure: 90 days, Minimum
 3. Surface Color: Manufacturer's standard
 4. Manufacturers:
 - a. CertainTeed Corporation, Valley Forge, PA – WinterGuard HT X
 - b. GAF Materials Corporation, Parsippany, NJ – StormGuard

2.03 AUXILIARY MATERIALS

- A. Shingle Nails: 11- or 12-gauge shank diameter roofing nail with 3/8" diameter head with barbed/ring shank. The material shall meet ASTM F1667.
 1. Length: Sufficient to penetrate through wood sheathing a minimum of 1/4" or into solid wood a minimum of 3/4"
 2. Corrosion Protection: Hot-dipped Galvanized meeting ASTM A153 or Series 300 stainless steel
 3. Manufacturers:
 - a. Maze Nails, Peru, IL; Storm Guard.

- b. Paslode - Roofers Choice.
 - c. Senco Brands, Inc., Cincinnati, OH - Weatherex II
- B. Asphalt Roofing Cement: ASTM D4586, Type I or II; asbestos-free.
- C. Lead Pipe Flashing: 4-pound lead sleeve sized to slip over and turn down into pipe, soldered to skirt at roof slope and extended 6" onto roof surface.
- D. Hot Pipe Flashing: Galvanized steel flashing designed for use at hot-pipe locations and shall be sized for the size of the hot pipe.
- E. Metal Lap Sealant; Polyisobutylene; extrudable sealant, non-migratory, nondrying, and non-skinning synthetic elastomer sealant. Comply with ASTM C919, ASTM E90, AAMA 809.2, or Federal Specification TTC-598-b Type 1.
 - 1. Manufacturers
 - a. Sika Corporation, Madison Heights, MI; Sikalastomer - 511
 - b. Schnee-Morehead, Irving, TX; Acryl-R SM 5430
 - c. Pecora Corp., Harleysville, PA – BA-98
- F. Sealant: One or two component polyurethane-based, non-sag elastomeric sealant. Comply with ASTM C920, Type S, Grade NS, Class 25.
 - 1. Use Locations: Exposed and concealed exterior sealant joints.
 - 2. Color: To be selected by Owner from manufacturer's standard colors.
 - 3. Manufacturers:
 - a. BASF, Shakopee, MN – MasterSeal NP1 or NP2
 - b. Sika Corp., Madison Heights, MI – Sikaflex 1a or 2c
 - c. Schnee-Morehead, Irving, TX – Permthane SM 7108
 - d. Pecora Corp., Harleysville, PA - DynaTrol I-XL

2.04 REJECTED MATERIALS

The Design Professional shall have the right to inspect all materials brought to or stored at the job site. Those materials which do not comply with the above requirements shall be removed from the Owner's premises within two (2) hours of verbal notification to the person designated by the Contractor to be the lead on-site supervisor. The verbal notification will be by the Design Professional, which will be followed by written confirmation.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. A pre-job conference including the Design Professional, Owner's Representative, the Contractor, the manufacturer's representative and all involved trades shall be conducted prior to commencement of the roofing work.
- B. Examine substrates and conditions under which work is to be performed. Do not proceed

until unsatisfactory conditions have been corrected as required for the material application in accordance with the material manufacturer's specifications and requirements. Surfaces to receive roofing material components are to be clean, even, smooth, dry, and free from defects and projections which might adversely affect the application.

- C. Notify the Design Professional in writing to all conditions which may adversely affect the installation and/or performance of the roof system prior to commencing with the work. Proceed with installation only after unsatisfactory conditions have been corrected. Application of any part of the roof system shall indicate acceptance of the roof surface and acknowledgement of full responsibility for the quality and durability of the roofing.

3.02 PREPARATION

- A. All surfaces shall be swept clean prior to commencement of roof installation.
- B. Roof Deck: All surfaces to receive new roofing materials shall be smooth and even without any protrusions.
- C. Existing Flashing Components: Remove all existing flashing components of the roof's perimeter and penetrations, unless otherwise specified.

3.03 GENERAL

- A. Application of the roofing products for installation shall be in accordance with the roofing material manufacturer's recommendations and additional requirements of the project specifications and drawings. Material manufacturer's recommendations related to weather (temperature, moisture, humidity), surface preparation, and shelf life must be observed. The effect on the performance of materials, as well as installation costs and production, must be considered.
- B. Only install as much of the new roofing as can be made weather tight each day, including all flashing work.
- C. All work shall be scheduled and executed without exposing the interior building areas to the effects of inclement weather. The building and its contents shall be protected against all risks.
- D. All surfaces to receive new membrane or flashings shall be thoroughly dry. Should surface moisture occur, the Contractor shall provide the necessary equipment to dry the surface prior to application.
- E. All new and temporary construction, including equipment and accessories, shall be secured in such a manner, at all times, as to preclude wind blow-off or wind damage.
- F. Arrange work sequence to avoid use of newly constructed roofing for storage, walking surface, and equipment movement.
- G. If any unusual or concealed condition is discovered, stop the work and provide written notification to the Design Professional immediately.

3.04 SELF-ADHERING UNDERLAYMENT INSTALLATION

- A. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free on roof deck. Comply with low-temperature installation restrictions of underlayment manufacturer, if applicable. Install over entire roof area lapped in direction to shed water. Lap sides not less than 4 inches. Lap ends not less than 6 inches staggered 24 inches between courses. Self-adhering underlayment shall be extended vertically up walls 6" and turned down over any roof edges, as specified on the project drawings. Roll laps with roller. Cover underlayment within 90 days.
- B. The manufacturer's recommended primer shall be utilized where recommended by the manufacturer or if the self-adhering underlayment is not achieving proper adhesion on the unprimed surface.
- C. If the self-adhering underlayment surface film extends past the rubberized asphalt adhesive/waterproofing, it shall be trimmed off at intersecting overlaps to eliminate a point of water entry. In addition, it shall be removed at terminations such as roof edges, curbs, etc. to eliminate any potential noise issues during winds.

3.05 FLASHING INSTALLATION

- A. General: Install flashings per the asphalt shingle manufacturer's requirements and recommendations and the Contract Documents.
- B. Apron Flashings: Extend lower flange over and beyond each side of downslope asphalt shingles and up the vertical surface.
- C. Rake Drip Edges: Install rake drip edge flashings over underlayment and fasten to roof deck.
- D. Eave Drip Edges: Install eave drip edge flashings below underlayment and fasten to roof deck.
- E. Step Flashings: Install step flashing between shingle courses at all rake-to-wall and curb penetration details.
- F. Vent Pipe Flashing: Install pre-formed lead sleeve sized to slip over and turn down into pipe, soldered to flange at roof slope and extended at least 6" onto roof deck.

3.06 ASPHALT SHINGLE INSTALLATION

- A. Install asphalt shingles according to manufacturer's installation instructions and the Contract Documents. If there are discrepancies between these requirements, the more stringent required (as determined by the Design Professional) shall govern.
- B. Install starter strip along lowest eave edge and rakes with self-sealing strip face up and as recommended by the shingle manufacturer.
- C. Extend asphalt shingles 1/2 inch over fascia at eaves and rakes.
- D. Install first and remaining courses of asphalt shingles with manufacturer's recommended offset pattern at succeeding courses, maintaining uniform exposure.

- E. Fasten asphalt shingle strips with a minimum of five (5) roofing nails (unless manufacturer recommends a different number of fasteners) located according to manufacturer's written instructions. Fasteners shall be driven so the nail head is flush with surface of shingle.
 - 1. Where slope is greater than 20:12, seal asphalt shingles with asphalt roofing cement spots.
 - 2. When ambient temperature during installation is below 50° F, seal asphalt shingles with asphalt roofing cement spots at the rate recommended by the asphalt shingle manufacturer.

3.07 PROTECTION OF FINISHED WORK

- A. Protect finished work.
- B. Do not permit traffic over finished roof surface.

3.08 COMPLETION

- A. Correction of Work
 - 1. Work that does not conform to specified requirement including tolerances and finishes, shall be corrected and/or replaced as directed by the Design Professional, at Contractor's expense, without extension of time. Therefore, Contractor shall also be responsible for cost of corrections to any Work affected by or resulting from correction to work of this Section.
 - 2. Rejection of Damaged Work
 - a. Roofing Contractor, jointly with Design Professional and roofing material manufacturer's representatives, shall investigate completed sections of work.
 - b. Damaged roofing components and work will be rejected.
 - c. Replace damaged roofing components or work with new brand materials. Replacement will be at Contractor's expense.
- B. Site clean-up, including both interior and exterior building areas that have been affected by construction, shall be restored to pre-construction condition.

All landscaped areas affected by construction activities shall be raked clean, seeded, or restored to pre-construction condition.
- C. All manufacturers' on-site inspection reports shall be submitted prior to final payment.
- D. All guaranties, as required in Part 1 of this specification, shall be submitted for approval prior to final payment.

END OF SECTION 07 31 13 - ASPHALT SHINGLES

07 53 23**ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING****PART 1 - GENERAL****1.01 GENERAL REQUIREMENTS**

- A. The provisions of the General Conditions and the Sections included under Division 1, General Requirements, are included as a part of this Section as though bound herein.

1.02 SCOPE OF WORK

- A. Work of this section shall provide Owner with (1) a functional weathering surface by applying a fully adhered roof membrane system over specified insulation system; (2) appropriate flashings at roof perimeter and roof penetration conditions.
- B. Items covered by this specification section:
1. Thermoset Single-Ply Membrane (EPDM)
 2. Flashings
 3. Fasteners
 4. Accessories

1.03 UNIT PRICE WORK

- A. The following work shall be added or deleted on a unit price basis in accordance with the requirements of Section 00 41 13. Where required, the scope of work per unit price shall be jointly assessed and agreed upon between the Owner's Representative and the Contractor.
1. N/A

1.04 RELATED SPECIFICATIONS

The work of this part shall be in accordance with the applicable requirements of the following:

Division 1	General Requirements
02 41 19	Selective Structure Demolition
05 30 23.01	Steel Deck Repair
06 10 53.01	Rough Carpentry for Roofing
07 22 16	Roof Insulation
07 24 19	Water-Drainage Exterior Insulation and Finish System
07 31 13	Asphalt Shingles
07 62 00	Sheet Metal Flashing and Trim

1.05 REFERENCES

- A. American Society of Civil Engineers (ASCE)
1. Document ASCE 7-16, Minimum Design Loads for Buildings and Other Structures.
- B. American Society of Testing and Materials (ASTM)

1. E108 – Standard Test Methods for Fire Tests of Roof Coverings.
 2. C920 – Standard Specification for Elastomeric Joint Sealants
 3. D1079 – Standard Terminology Relating to Roofing and Waterproofing
 4. D4637 –
 5. E108 – Standard Test Methods for Fire Tests of Roof Coverings.
 6. F1667 – Standard Specification for Driven Fasteners: Nails, Spikes, and Staples
- C. FM Global
1. Data Sheet 1-29 – Roof Deck Securement and Above Deck Components
 2. Approval Standard 4450 – Approval Standard for Class 1 Insulated Steel Roof Decks
 3. Approval Standard 4470 – Single-Ply, Polymer-Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Assemblies for use in Class 1 and Noncombustible Roof Deck Construction
 4. Approval Standard 4474 – Evaluating the Simulated Wind Uplift Resistance of Roof Assemblies Using Static Positive and/or Negative Differential Pressures
 5. RoofNAV – FM Approvals On-Line Listing of Approved Roofing Products and Assemblies
- D. National Roofing Contractors Association (NRCA)
1. The NRCA Roofing Manual: Membrane Roof Systems.
- E. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA)
1. Architectural Sheet Metal Manual.

1.06 DEFINITIONS

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

1.07 PERFORMANCE REQUIREMENTS

- A. General: 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. The roof system and system components shall comply with requirements in FM Approvals of 4450 and 4474, current editions.
- 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. Wind Up-Lift and Hail Characteristics: 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 pressures and hail as listed below. The perimeter and corner areas shall be prescriptively enhanced in accordance with the current edition of FM Global Loss Prevention Data Sheet 1-29.

1. Field Wind Up-Lift Rating: 60 psf
 2. Hail Resistance: SH
- D. Fire-Test Response Characteristics: Provide roofing materials with the fire-test response characteristics indicated as determined by testing identical products per test method indicated below by UL, FM, or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and slopes indicated.
 2. Interior Fire-Test Exposure: Class 1

1.08 REUTILIZED MATERIALS

The following items shall be assumed to be fully salvageable and reusable:

1. N/A

1.09 SUBMITTALS

Submit in accordance with Section 01 33 00:

A. Product Data:

1. Submit specifications, installation instructions, and general recommendations from roofing materials manufacturers for type of roofing required. Include data substantiating that materials comply with requirements of this specification, inclusive of accelerated weathering data.

B. Shop Drawings:

1. Flashing Conditions: Submit shop drawings showing membrane sheet layout, all roof flashing conditions, including but not limited to drains, perimeter conditions, roof penetration conditions, expansion joints, etc. The shop drawings must be reviewed and approved by the roof system manufacturer to ensure the completed installation will meet the manufacturer's warranty requirements.
2. Wind Uplift Securement: Provide roof plan(s) marked-up to indicate extent of roof corner and roof perimeter areas, inclusive of fastener spacing/density. This drawing must be reviewed and approved by the roof system manufacturer to assure the completed installation will meet the manufacturer's warranty requirements and the Performance Requirements listed in this specification.

C. Product Samples:

1. Roof Membrane - Sample size 6" x 6".
2. Mechanical Anchors and accessories.
3. Slip or separation layers.
4. Vapor Barriers/Retarders.

5. Prefabricated items.
- D. Material Safety Data Sheets (MSDS):
1. Submit an MSDS sheet for each material that will be utilized on-site.
- E. Submit the RoofNAV number, DORA assembly number, or other laboratory test reports that shows the roof system complies with the performance requirements listed in the specification.
- F. Manufacturer Certification:
1. Manufacturer shall provide written evidence that he has reviewed the project specifications and drawings and will provide a warranty that complies with the requirements listed in Section 1.15 Guarantee upon completion of the project in accordance with the manufacturer's current technical specifications.
 2. Submit written approval from roof membrane manufacturer for use, performance, and compatibility of the roof insulation and products in the proposed system.
 3. Submit written statement of roof membrane manufacturer that Contractor has experience in the application of specified roof system, and the Contractor is approved by membrane manufacturer to install the roof system and receive the specified warranty. The project foreman and at least two (2) assistants must have attended and passed the manufacturer's installation course.
 4. Certify that roof system meets all specified Performance Requirements.
 5. The roof system manufacturer shall submit written certification that the roof system manufacturer has reviewed the fastener and/or adhesive field-testing results and the pull-out/pull-off resistance is sufficient to meet the specified wind uplift rating and manufacturer's warranty requirements.
- G. Contractor Certification:
1. Contractor shall submit to the Design Builder a copy of the manufacturer's "Pre-installation Notice" (PIN) for review and acceptance prior to ordering materials for the project.
- H. Sample Warranty:
1. Submit copy of warranty from the roof system manufacturer.
- I. Field Testing:
1. Perform fastener pull-out tests in accordance with ANSI/SPRI FX-1 for each type of fastener that is required. Submit written evidence of the fastener pull-out tests of deck and/or wall substrate(s) to show compliance with this specification.

1.10 QUALITY ASSURANCE

A. Contractor Qualifications:

1. The contractor must be approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product that is eligible to receive a manufacturer's 20 year no-dollar-limit warranty.
2. The contractor shall have installed a minimum of three (3) projects within the last five (5) years.
3. The project foreman and at least two (2) assistants must have attended and passed the manufacturer's installation course. Evidence of completion of the manufacturer's training must be presented prior to the start of the project.

B. Manufacturer Qualifications:

1. The roof system manufacturer shall have manufactured the specified membrane material for a minimum of 10-years without a change in the basic material formulation.
2. The roof system manufacturer shall have a training program that all contractors must attend prior to installing the specified roof system.
3. The manufacturer must demonstrate that they have an adequate warranty fund to cover possible future warranty claims.

1.11 DELIVERY, STORAGE, AND HANDLING

- A. All products delivered to the site shall be in the original unopened containers or wrappings.
- B. Average live loads on the roof during the work shall not exceed twenty (20) pounds per square foot at any time.
- C. Handle all materials to prevent damage. Store materials elevated sufficiently off the ground and fully protected from moisture. Materials shall be secured in a safe manner to prevent damage. Material shall be covered with opaque tarps, secured to prevent displacement by wind forces.
- D. Store temperature susceptible materials in a dry and heated area between 60 degrees F and 80 degrees F. If exposed to lower or higher temperatures, the material shall be discarded and new material provided at no cost to the Owner.
- E. Materials determined by the Owner's Representative to be damaged or to have been subjected to adverse conditions shall be removed and replaced at Contractor's expense.
- F. Membrane rolls shall be stored in a way to prevent roll deformation by excessive stacking.
- G. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Closely follow precautions/instructions outlined on container or supplied by manufacturer/supplier (MSDS sheets).

1.12 WEATHER LIMITATIONS ON WORK

- A. Roofing work shall not be done during precipitation and shall not be started in the event there is a high probability of precipitation during the ongoing work.
- B. At ambient temperatures of 40 degrees F and below, including wind-chill, precautions must be taken to ensure that temperature-susceptible materials maintain their minimum acceptable temperature at the point of application as recommended by the roofing materials manufacturer.

1.13 PROJECT CONDITIONS (CAUTIONS AND WARNINGS)

- A. Contractor shall implement all necessary precautions to prevent debris or materials/equipment from becoming airborne due to wind conditions anticipated at the site. All roof removal materials shall be removed from the roof by an enclosed chute to the ground level. Roofing Contractor shall conform to all regulations and precautions as required by applicable safety organizations.
- B. All methods employed in performing the work, and all equipment, tools, and machinery used for handling materials and executing any part of the work, shall be subject to the approval of the Design Professional before the work is started, and whenever found unsatisfactory, shall be changed and improved as required.
- C. Roofing System:
 - 1. Solvents, adhesives, and primers used in the application of single-ply roofing systems are extremely flammable and/ or toxic. Provide any and all crewmembers with appropriate safety data information and training as provided by the roofing materials manufacturer. Provide each crew member with appropriate training as it relates to the specific chemical compound he/she may be expected to deal with. Each crewmember shall be fully aware of first-aid measures to be undertaken in case of accidents, etc.
 - 2. Various single-ply roofing membranes tend to change their material properties when exposed to sunlight and/or heat. Change in the physical properties can result in elimination or at least reduction of the apparent weld ability of a particular roof membrane material. It is critical to closely follow the roofing material manufacturer's recommendations and requirements as to material seaming.
- D. Protection:
 - 1. General: Protection against staining and mechanical damage shall be provided for adjacent roof and other surfaces during the application of the roofing. Provide working platforms and traffic walkways where necessary.
 - 2. Against Loads:
 - a. Do not store material/equipment on completed work of this section. Where due to work sequence storage of material/equipment on completed sections is required, protect work of this section against damage. Protection shall

consist of plywood boards or similar material, and shall take into consideration the material characteristics of both the roof membrane and the roof insulation.

3. Against Traffic:
 - a. Traffic is not permitted across completed sections of the roof, except for workmen performing the work.
 - b. Where, due to work sequencing, traffic is required, traffic paths shall be clearly defined, and completed roofing shall be protected with plywood boards or similar material. Protection shall take into consideration the material characteristics of both the roof membrane and the roof insulation.
 - c. At locations where the existing roof system will be heavily trafficked, such as pathways for material removal and /or material distribution, the existing roof system shall be protected. Protection shall consist of foam insulation of sufficient thickness to prevent roof membrane punctures. The insulation shall be overlaid with plywood boards. The pathway shall be constructed in a fashion to prevent displacement by wind. Any deviation from this requirement shall be at the Owner/Owner's Representative's absolute discretion.
- E. All activities shall be performed in a way to provide Owner with an immediate watertight roof system at all times during construction. It is the Contractor's responsibility to prevent construction-related leaks.
- F. The majority of the work is over occupied space. Every precaution must be taken to protect the building occupants, the general public, and the contents/products stored in the building. The removal and replacement of the roof system shall be completed on specific roof sections and/or areas at such times as authorized by the Owner's Representative. All other operations which produce loud noises, and/or have the potential for injury incidents from falling objects, shall also be confined to non-operating hours. All project-related interior debris, interior covering, equipment, etc. shall be removed and the interior shall be brought to like cleanliness condition prior to operating hours, inclusive of cleaning debris from above ceiling tile grids unless other arrangements are made for final cleaning operations. It is the Contractor's responsibility to monitor and protect the interior and occupants of the building at all times during construction.
- G. Coordinate all roofing work closely with Design Professional as it relates to work going through the roof deck and/or affecting the roof deck and/or the roof system. Roofing work will be performed where identified in the project specifications and drawings, in strict accordance with the various roofing material manufacturer's installation instruction requirements and recommendations.
- H. Closely inspect any uncovered condition and alert Owner or his Representative to any condition which may interfere with the performance of the new roof membrane system, inclusive of flashings. All work and activities shall be completed in such a manner to provide Owner with a watertight roof system.

1.14 MANUFACTURER'S REPRESENTATIVE

- A. Contractor shall require the presence of a Technical Representative of the roofing membrane manufacturer to perform inspections and provide field instructions during the duration of the work, as required by the manufacturer for a guaranteed job.
- B. In addition, Owner's Representative may require the presence of the Technical Representative of the roofing material manufacturer, as necessitated by the work progress.
- C. The Technical Representative shall be employed by the roofing material manufacturer. We recommend the roofing material manufacturer designate one (1) Technical Representative for the duration of the project.

1.15 GUARANTEE

A. MATERIAL MANUFACTURER'S RESPONSIBILITY:

- 1. The following warranty shall be in addition to and not in derogation of any other guarantees, warranties, or rights of the Owner against the contractor contained elsewhere in the agreement.
- 2. The Contractor shall furnish to the Owner, the Manufacturer's FULL SYSTEM 20-Year Warranty/Guaranty (the "Warranty") against leaks and defects in materials and/or workmanship. The Warranty shall obligate Manufacturer, without cost to the Owner, to repair all leaks and defects in materials and/or workmanship in the Roof System (hereafter defined), including the replacement or repair of any materials and the repairing or restoration of any other part of the Roof System that may be damaged as a result of any such leaks and defects in materials and/or workmanship including, without limitation, wet insulation(**) and corroded fasteners. In addition to requirements set forth elsewhere in the Contract Documents, the Warranty shall:
 - a. include and cover all materials manufactured, sold and/or provided by the Manufacturer for use in connection with the roof membrane and system (e.g. insulation and fasteners), but shall specifically exclude the roof decking, unless such decking is manufactured or provided by Manufacturer (collectively, the "Roof System").
 - b. not be pro-rated; shall be without financial limit; shall not be limited due to the Contractor's failure to install all or any portion of the Roof System in strict compliance with the Manufacturer's requirements; and shall not be voided or limited as a result of Manufacturer-approved repairs, including work performed by any Manufacturer-authorized Contractor during or subsequent to the initial installation of the Roof System.
 - b. not be limited to wind forces of less than 90 m.p.h.
 - c. include Factory Mutual Research Corporation (FMRC) approval rating of Class 1-SH, Severe Hail Damage Resistant and cover roof system damage as a result of hailstones up to 3/4-inch diameter.
 - d. cover all Manufacturer requirements identified in Sections 07 22 16 and 07 62 00 when Full System Warranty is specified.

- e. run to the benefit of and be enforceable and transferable by and among Owner and all Affiliates without restriction or fee. For purposes of the Warranty, the term "Affiliate" shall mean and include any corporation, partnership, limited liability company, trust, real estate investment trust or other entity, whether heretofore, now, or hereafter existing, created, formed or organized, that directly or indirectly through one or more intermediaries controls, is controlled by or under common control with the current Owner of record at said time of Warranty issuance. Should the Owner of record sell the facility or otherwise transfer the Ownership to a non-affiliate, the Warranty shall be transferable for the Manufacturer's (at that time) published Warranty transfer charge (not to exceed \$1,000.00). The transfer policy shall not require the new Owner to pay for repair items that are covered under the warranty but may require the new Owner to perform and/or pay for non-warranty and maintenance items identified during the Manufacturer's inspection.
- f. commence not prior to the Date of Substantial Completion {the "Effective Date"(*)}.
- g. provide that any dispute relating to the interpretation, application, scope or enforceability of the Warranty shall be resolved and settled in accordance with applicable law in any court having jurisdiction thereof.
- a. for the duration of the Warranty, investigate and repair all leaks within 5 business days of notification thereof (initial notification by telephone, with follow-up by written notification) and, promptly thereafter, complete other such repairs, restoration and/or replacement of the roof system.
- h. upon completion of any investigation and repair, the manufacturer shall submit to the Owner adequate documentation (e.g. samples, photographs, etc.) depicting and describing the problem encountered and the probable cause of the leak(s) upon such investigation and repair.
- i. The Manufacturer shall inspect the Roof System not later than six (6) months prior to the second, fifth, and tenth anniversary of the Effective Date of the Warranty. The Manufacturer shall correct all leaks and defects in materials and/or workmanship in the Roof System observed during any such inspection. The Manufacturer shall correct all leaks and defects in materials and/or workmanship in the Roof System observed during any such inspection. The methods of repair shall be at the discretion of the Manufacturer and shall be completed with material of the same quality and color as the original roof system so as to minimize any impact on the aesthetic nature of the roof, as visible from within the building or as viewed from the ground level surrounding the facility.

(*) NOTE: The Effective Date of the Warranty(ies) shall not be prior to the date of Substantial Completion.

PART 2 - MATERIALS

2.01 MEMBRANE

- A. Thermoset (EPDM) Sheet: Cured non-reinforced EPDM compounded elastomer. Membrane shall conform to ASTM D4637, Type I.
 - 1. Manufacturers:
 - a. Carlisle-Syntec, Carlisle, Pennsylvania
 - b. Elevate, Nashville, Tennessee
 - c. Johns-Manville, Denver, Colorado
 - 2. Thickness:
 - a. 60 mils, nominal
 - 3. Color: Black

2.02 AUXILIARY MATERIALS

- A. General: Furnish auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing material.
- B. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, thickness, and color as sheet membrane.
- C. Pressure-Sensitive Flashing/Stripping: Manufacturer's 60 mil uncured EPDM membrane flashing laminated to 30 mil thick pressure sensitive adhesive. The product shall be adaptable for use on irregular shapes or surfaces.
- D. Seam Tape: Manufacturer's pressure-sensitive 3" wide tape with clear poly release film.
- E. Uncured Flashing: Manufacturer's 60-mil thick uncured EPDM membrane, laminated to a 30-mil thick fully cured, pressure sensitive adhesive. Flashing material can be utilized to flash irregular shapes and surfaces.
- F. Pre-Formed Pipe Flashing: Manufacturer's pre-molded, cured EPDM pipe flashings with pre-applied pressure sensitive adhesive.
- G. Bonding Adhesive: Manufacturer's standard solvent-based or low VOC adhesive.
- H. Reinforced Securement Strip: Manufacturer's 45 mil thick reinforced EPDM strip with 30-mil cured EPDM splice tape (3" wide) laminated along one or both edges.
- I. Metal Termination Bars: Manufacturer's standard aluminum bars, approximately 1/8" thick and 1" wide with pre-punched holes 6" o.c.
- J. Water Cut-Off/Metal Lap Sealant: Butyl-based, non-curing, non-hardening sealant.
 - 1. Manufacturers
 - a. Sika Corporation, Madison Heights, MI (or approved equal) - Sikalastomer – 511
 - b. Schnee-Morehead, Irving, TX - SM 5430 (SSR Sealant)
- K. Lap Sealant: Manufacturer's single component, gun grade sealant used to seal the exposed cut edge of reinforced EPDM membrane and edges of uncured flashing.

- L. Sealant: 1 or 2 component polyurethane-based sealant meeting ASTM C 920, Type S, Grade NS, Class 35, Use NT, M, A, G and I. Manufacturer-approved primers are required. Color to be selected by Owner.
1. Manufacturers:
- Master Builders Solutions by BASF, Shakopee, MN; MasterSeal NP 1
 - Sika Corporation, Madison Heights, MI; Sikaflex-1a
- M. Tape Sealant: 3/4" wide butyl-based tape sealant.
- N. Sealant Primers: Sealant primer is a quick-drying solvent-based primer for priming joints and substrates before the application of sealants.
1. Manufacturers:
- BASF, Shakopee, MN; Sonolastic Primer 733
 - Sika Corporation, Madison Heights, MI; Sikaflex Sealant/Adhesive Primer
- O. Nails: ASTM F1667; hot-dipped galvanized steel wire shingle nails, barded or ring shank, minimum 3/8" head diameter; minimum 11- or 12-gauge shank diameter; shank to be of sufficient length to penetrate at least 3/4" into solid wood, plywood, or non-veneer wood decking.
- P. Pre-Fabricated Corners: 60 mil thick inside and outside corners fabricated from the roof manufacturer's standard membrane material.
- Q. Membrane Securement Plates: Manufacturer's standard 2" round steel membrane plate that has been tested with their roof system assembly to achieve the specified wind-uplift ratings. All products must meet Factory Mutual 4470 criteria for corrosion resistance.
- R. Fasteners: All fasteners shall be factory-coated steel fasteners to meet Factory Mutual 4470 criteria for corrosion resistance. Pull out resistance shall be a minimum of 360 lbs.
1. General:
- The fastener thread penetration into or through the substrate shall be as listed below. Edge and end distances shall be as listed below. The fastener penetration shall exclude any drilling point or tapered point.
- Solid Wood Blocking: 6 x Screw Diameter into the substrate and minimum 1-1/4" embedment; edge and end distances as required to prevent splitting.
 - Plywood or OSB Sheathing: 3/4" minimum penetration through the sheathing; edge distance 3/8"
 - Steel Decking: 3/4" through the sheet metal; 1/2" minimum edge distance.
 - Concrete: 1" min. embedment; 6 x Screw Diameter edge distance
 - Masonry or Stone: 1-1/2" min. embedment; 8 x Screw Diameter edge distance.
2. Steel Deck:
- Fasteners to have self-drilling tip. Fastener tip shall be capable of cutting

steel deck material of 20-gauge thickness at point of steel deck overlap without damage to the fastener tip.

- b. Fasteners shall be installed in high flute of steel deck with a minimum of one-half inch (1/2") penetration. Fasteners shall not extend past the bottom of the steel deck (i.e. low rib).
- c. Pull-out resistance shall be determined based on the mean value of ten (10) pull-outs. Pull-out resistance must be a minimum of 360 lbs. per fastener.

- 3. All products shall also be approved by membrane manufacturer.

2.03 REJECTED MATERIALS

The Design Professional shall have the right to inspect all materials brought to or stored at the job-site. Those materials that do not comply with the above requirements shall be removed from the Owner's premises within two (2) hours of verbal notification to the person designated by the Contractor to be the lead on-site supervisor. The verbal notification will be by the Design Professional, which will be followed by written confirmation.

PART 3 - EXECUTION

3.01 INSPECTION

- A. A pre-job conference including the Design Professional, Owner's Representative, Contractor, manufacturer's representative and all involved trades shall be conducted prior to commencement of the roofing work.
- B. Examine the substrate and the conditions under which the work is to be performed. Do not proceed until unsatisfactory conditions have been corrected as required for the material application and in accordance with the material manufacturer's specifications and requirements. Surfaces to receive roofing material components are to be clean, even, smooth, dry and free from defects and projections that might adversely affect the application.
- C. Notify the Design Professional in writing to all conditions which may adversely affect the installation and/or performance of the roof system prior to commencing with the work. Proceed with installation only after unsatisfactory conditions have been corrected. Application of any part of the roofing system shall indicate acceptance of the roof surface and acknowledgment of full responsibility for the quality and durability of the roofing.
- D. Verify slope prior to installation.
- E. Contractor shall verify that work penetrating the roof deck or which may otherwise affect the roofing has been properly completed.

3.02 PREPARATION

- A. General: All surfaces shall be vacuumed prior to commencement of roofing installation.
- B. Drainage: Contractor together with Design Professional shall verify that all drain lines are

unblocked before starting work. Any blocked drains shall be cleared by the Owner before starting work. Cover all drains and other openings intended for roof drainage with screens to prevent clogging of the drainage system. During construction, allow for sufficient drainage to prevent ponding with possible structural overloading.

- C. Roof Deck: All surfaces to receive new roofing materials shall be smooth and even without any protrusions.
- D. Fasteners: Contractor is required to run pullout tests to verify conditions of deck or wall substrate(s) and to confirm pullout values.
- E. Existing Flashing Components: Remove all existing flashing components of the roof's perimeter and penetrations. Clean existing surfaces of asphalt or other contaminants where contact with roof membrane surfaces is expected.
- F. Work shall begin at the furthest point from the designated spot where materials are shipped to the roof. Work shall be so scheduled to minimize traffic over newly completed or previously renovated roof areas.

3.03 GENERAL

- A. Application of the roofing products for installation shall be in accordance with the roofing material manufacturer's recommendations and additional requirements of the project specifications and drawings. Material manufacturer's recommendations related to weather (temperature, moisture, humidity), surface preparations, and shelf life must be observed. The effect on the performance of materials, as well as installation costs and production, must be considered.
- B. Only install as much of the new roofing as can be made weathertight each day, including all flashing work.
- C. Where possible, roof membrane panels shall be installed in such a fashion to create water-shedding seams.
- D. All work shall be scheduled and executed without exposing the interior building areas to the effects of inclement weather. The building and its contents shall be protected against all risks.
- E. All surfaces to receive new insulation, membrane, or flashings shall be thoroughly dry. Should surface moisture occur, the Contractor shall provide the necessary equipment to dry the surface prior to application.
- F. All new and temporary construction, including equipment and accessories, shall be secured in such a manner, at all times, as to preclude wind blow-off or wind damage.
- G. Temporary water stops shall be installed at the end of each day's work and shall be removed before proceeding with the next day's work. Temporary water stops shall be constructed to withstand protracted periods of inclement weather. Water stops shall be compatible with all materials and shall not emit dangerous or incompatible fumes.
- H. The Contractor is cautioned that the roof membrane may be incompatible with certain substances. Such materials shall not come into contact with the roof membrane at any time.

If such contacts occur, the material shall be cut out and discarded. The Contractor shall consult material manufacturer with respect to material compatibility precautions and recommendations.

- I. Arrange work sequence to avoid use of newly constructed roofing for storage, walking surface, and equipment movement. Where such access is absolutely required, the Contractor shall provide all necessary protection and barriers to segregate the work area and to prevent damage to adjacent areas. Plywood protection shall be provided for all new and existing roof areas that receive traffic during construction.
- J. Liquid materials, such as solvents and adhesives, shall be stored in accordance with requirements of the Safety Data Sheets provided by the respective manufacturer.
- K. Contaminants, such as grease, fats, oils, and solvents, shall not be allowed to come into contact with the roofing membrane.
- L. If any unusual or concealed condition is discovered, stop the work and notify the Owner's Representative immediately in writing.

3.04 Criteria for Establishing When Insulation is Wet

The definition of "wet" as it pertains to insulation shall be the moisture determined to be in excess of the "Equilibrium Moisture Content" (EMC) as defined by the National Roofing Contractors Association, as "the moisture content of a material stabilized at a given temperature and relative humidity expressed as a percent moisture by weight." When material contains more water than it EMC, it shall be defined as wet. The values of EMC shall be based upon research by Carl G. Cash of Simpson Gumperts & Heger, Inc., of Arlington, Massachusetts (which was presented at the Second International Symposium of Roofing Technology in September 1985, pages 416 through 427 inclusive). The EMC values shall not exceed 100% over Cash's printed values for 90% relative humidity at 68F. Moisture contents of materials above these adjusted values will be considered to be excessive and to have developed from sources other than ambient humidity equilibrium conditions and they shall be classified as wet. These adjusted values (reflecting up to 100% increase over the printed values at 90% relative humidity at 68F) shall be as follows:

	<u>Material</u>	<u>Printed Value</u>	<u>Adjusted Value</u>
1.	Cellular Glass	0.2	0.4
2.	Extruded Polystyrene (XPS)	0.8	1.6
3.	Expanded Polystyrene (EPS)	2.0	4.0
4.	Fiberboard	15.0	20.0(*)
5.	Fiberglass	1.1	2.2
6.	Isocyanurate	3.0	6.0
7.	Perlite	5.0	10.0
8.	Gypsum Fill with Wood	1.7	3.4
9.	Gypsum Fill without Wood	1.6	1.2
10.	Thermo-setting asphalt	0.4	0.8
11.	Vermiculite	6.6	12.0(*)

(*) Less than 100% increase

3.05 ROOF MEMBRANE INSTALLATION

- A. Fully adhered roofing systems shall be adhered with membrane manufacturer's approved adhesives, inclusive of manufacturer's required fasteners and additional fastener requirements as indicated on project drawings.
- B. Install roof membrane over prepared substrate inclusive of any and all required slip and/or separation layers as required by the roof membrane manufacturer, in compliance with local and national building codes and loss prevention control by the Owner.
- C. Position and unroll roof membrane. Extend membrane approximately three inches (3") up on all vertical surfaces, perimeter walls, etc.
- D. Determine the direction of water drainage and the low point of the deck. The orientation of both end and side laps shall be such that the direction of water flow is over the laps. The direction of the laps shall change as the direction of the water flow (slope) changes to avoid backwater laps.
- E. Cut field membrane around any and all roof projections prior to attaching adjacent roofing membrane sheet.
- F. Overlap adjacent roof membrane sheets a minimum of six inches (6") past fastening elements and under seam membrane edges when using liquid seam adhesive. Overlap adjacent roof membrane sheets a minimum of three inches (3") past fastening elements and under seam membrane edges when using preformed cured seam tape adhesive. Liquid splice adhesive shall be one part butyl adhesive. Seam tape splice adhesive shall be pre-formed and cured with a minimum width of three inches (3").
- G. The roof membrane shall be secured to nailers which are secured to the structural roof deck with mechanical anchors suitable for the deck type at all building perimeters and all curved penetrations (see Detail drawings).
- H. Attach roof membrane to all flashing components. Installation of the roof membrane system shall be inclusive of all accessory and incidental items to obtain membrane manufacturer's roof warranty to cover both labor and material as specified.

3.06 FLASHING INSTALLATION

- A. General:
 - 1. Install flashings for all roof penetrations as shown on accompanying drawings and as required by materials manufacturer, to obtain manufacturer's warranty. Install new flashing as indicated on the accompanying drawings.
 - 2. Raise roof curb heights and/or parapet/perimeter walls as required to meet the minimum base flashing height. All wood nailer exposed to the interior of the building shall be enclosed with 24-gauge Galvalume metal.
 - 3. Secured flashing shall be installed at all intersections of vertical and/or horizontal planes, i.e. roof perimeter and roof penetrations or at locations where the net slope difference exceeds 1:12 inch. Flashing height to be not less than eight inches (8"), unless indicated otherwise on project detail drawings.

4. Flashing shall be the same membrane as the field of the roof, as approved by the manufacturer.
5. Regardless of the type of flashing utilized, the flashing components shall be anchored to the substrate to resist forces a minimum of 150 lbs/ft in any direction. Anchors shall be staggered and appropriate for the encountered substrate condition or as outlined in project drawings.
6. In cases where openings exist between perimeter conditions and roof deck, prior to flashing application, Contractor shall install spray foam insulation material to act as a thermal, air, and vapor barrier.
7. Complete new base flashing and penetration flashing work in conjunction with the installation of the new roof membrane as required to ensure the roof system is left in a watertight condition on a daily basis, and before inclement weather occurs.
8. Where membrane flashing is used, adhere membrane flashing to vertical substrate(s) with approved adhesives. Substrate shall be clean, smooth, non-porous and free of contamination. Vertically adhered membrane flashings shall also require mechanically attached termination and intermediate mechanical attachment at eight inches (8") minimum or 36" maximum intervals. Protect flashing membrane with separation layers as required by manufacturer.
9. Top of flashing shall be mechanically anchored to substrate utilizing a termination bar and approved anchor.

3.07 COMPLETION

A. Correction of Work:

1. Work which does not conform to specified requirements including tolerances, slopes and finishes shall be corrected and/or replaced as directed by Design Professional at Contractor's expense without extension of time. Therefore, Contractor shall also be responsible for cost of correction to any work affected by or resulting from corrections to work of this section.
2. Rejection of Damaged Work
 - a. Contractor, jointly with Design Professional and roofing material manufacturer's representatives, shall investigate completed sections of work.
 - b. Damaged roofing components and work will be rejected.
 - c. Replace damaged roofing components or work with new brand materials. Replacement will be at Contractor's expense.

B. Site clean-up, including both interior and exterior building areas that have been affected by construction, shall be restored to pre-construction condition.

All landscaped areas affected by construction activities shall be raked clean, seeded, or restored to pre-construction condition.

C. All manufacturers' on-site inspection reports shall be submitted prior to final payment.

- D. All guaranties, as required in Part 1 of this specification, shall be submitted for approval prior to final payment.

END OF SECTION 07 53 23 – ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING

07 62 00
SHEET METAL FLASHING AND TRIM

PART 1 –GENERAL**1.01 GENERAL REQUIREMENTS**

- A. The provisions of the General Conditions and the Sections included under Division 1, General Requirements, are included as a part of this Section as though bound herein.

1.02 SCOPE OF WORK

- A. It is the intent of this specification to provide sheet metal flashing and trim that is integrated with the roof and wall system, to provide a weather-resistant building envelope system. The sheet metal flashing and trim must be able to withstand the applicable live (i.e. wind) and dead loads.
- B. Items covered by this specification section:
1. Counterflashings and Receivers
 2. Roof Edge Metal Systems
 3. Gutters and Downspouts
 4. Shingle Roof Sheet Metal Flashings
 5. Shingle Roof Vented Wall Flashing
 6. Miscellaneous Sheet Metal Flashing

1.03 UNIT PRICE WORK

- A. The following work shall be added or deleted on a unit price basis in accordance with the requirements of Section 00 41 13. Where required, the scope of work per unit price shall be jointly assessed and agreed upon between the Design Professional and the Contractor.
1. N/A

1.04 RELATED SECTIONS

Division 1	General Requirements
02 41 19	Selective Demolition
06 10 53.01	Rough Carpentry for Roofing
07 53 23	Ethylene-Propylene-Diene-Monomer (EPDM) Roofing

1.05 REFERENCES

- A. American Society of Civil Engineers (ASCE)
1. Document ASCE 7-16, Minimum Design Loads for Buildings and Other Structures.
- B. American Society of Testing and Materials (ASTM)
1. ASTM A755 – Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior

- Exposed Building Products.
- 2. ASTM A792 – Standard Specification for Steel Sheet, 55 % Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
- C. American National Standards Institute/Single-Ply Roofing Industry (ANSI/SPRI)
 - 1. ANSI/SPRI ES-1 - Wind Design Standard for Edge Systems Used with Low Slope Roof Systems
- D. FM Global
 - 1. Data Sheet 1-49 – Perimeter Flashing
- E. National Roofing Contractors Association (NRCA)
 - 1. NRCA Guidelines for Architectural Metal Flashings
- F. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA)
 - 1. Architectural Sheet Metal Manual.

1.06 DEFINITIONS

- A. Shop or Field-Formed Sheet Metal: Include components that will be formed or fabricated in the field or at the contractor's shop. Fabrication of sheet metal flashing and trim is predominantly by press brake-forming.
- B. Prefabricated or Manufactured Sheet Metal: Items that are plant manufactured and ready for installation upon receipt.

1.07 PERFORMANCE REQUIREMENTS

- A. General: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing, rattling, leaking, and fastener disengagement.
- B. Wind Resistance: Fabricate and install flashings to comply with recommendations of FM Global Loss Prevention Data Sheet 1-49 and ASCE 7 for the following zones:
 - 1. Zone 1 (Field Areas) = +20.0/-38.0 psf.
 - 2. Zone 2 (Perimeter Areas) = +20.0/-50.0 psf.
 - 3. Zone 3 (Corner Areas) = +20.0/-55.0 psf.
 - 4. Zone 4 (Wall Field Areas) = +20.0/-21 psf.
 - 5. Zone 5 (Wall Corner Areas) = +20.0/-26.0 psf.

All roof edge metal systems must be tested per ANSI/SPRI ES-1 to verify that the system can withstand the specified wind pressures with a factor of safety of 2.0. All other components shall be fabricated and installed to withstand the specified wind pressures with a factory of safety of 2.0.

- C. Thermal Movement: Provide sheet metal flashing and trim that allows for thermal movements resulting from the following maximum change in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of sheet

metal and trim thermal movements. Base engineering calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change: 120 degrees F., ambient and 200 degrees F., material surfaces.
- D. Water Infiltration: Provide sheet metal flashing and trim that do not allow water infiltration into the building in driving rain conditions.

1.08 REUTILIZED MATERIALS

The following items shall be assumed to be fully salvageable and reusable:

1. N/A

1.09 SUBMITTALS

Submit in accordance with Section 01 33 00:

A. Product Data:

1. Submit manufacturer's product data, installation instructions, color chart, and general recommendations for each type of material, accessory, and product specified.

B. Shop Drawings:

1. Identify material, thickness, and finish for each item and location in project.
2. Details for forming sheet metal flashing and trim, including profiles, shapes, seams, and dimensions. Note: These are reviewed only for conformance with the specification requirement. The contractor is responsible to verify the field conditions.
3. Details for fastening, joining, supporting, and anchoring sheet metal flashing and trim, including fasteners, clips, cleats, and attachments to adjoining work.
4. Collector Box – Submit shop drawing for the size and configuration of each collector box. Collector box to be sized and shaped based on required field conditions.

C. Product Samples:

1. Sheet Metal Color Samples: Provide physical samples of the material with painted finish for color selection.
2. Shop-Formed Material: Provide 6" square material sample for each material that is to be an exposed finish.
3. Manufactured Sheet Metal: Provide a 12" long assembly sample for each item.

D. Product Test Reports:

1. Provide report showing the proposed edge metal system has been tested by an independent testing lab per ANSI/SPRI ES-1 to pressures exceeding the

pressures specified in 1.07 Performance Requirements of this specification section.

E. Sample Warranty:

1. Provide sample warranty per the project specification.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Protect materials from weather, deformation, and other damage during delivery, storage, and handling.
- B. Unload, store, and install sheet metal flashing materials and fabrications in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack materials on platforms or pallets, covered with opaque tarps to prevent condensation. Do not store sheet metal flashings and trim materials in contact with other materials that might cause staining, denting, or other surface damage.
- D. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to the extent necessary for the period of sheet metal flashing and trim installation. Remove strippable protective covering after installation is complete.

1.11 WARRANTY

A. Material Manufacturer Responsibility:

1. Finish Warranty: The material manufacturer shall agree to repair finish or replace manufactured roof accessories that show evidence of deterioration of factory-applied finishes within the specified warranty period.
 - a. Kynar 500 Finish: Deterioration includes, but is not limited to, the following:
 - i. Color fading more than 5 Hunter units when tested according to ASTM D-2244.
 - ii. Chalking in excess of a No. 8 rating when tested according to ASTM D-4214.
 - iii. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - b. Warranty Period: 20-years
2. Wind Resistance Warranty: The coping cap and edge metal system shall be supplied by the Roof System Manufacturer and included in the Full-System Warranty for the Ethylene-Propylene-Diene-Monomer (EPDM) Roofing as specified in Section 07 53 23.

1.12 QUALITY ASSURANCE

- A. Source Limitations: Obtain sheet metal materials, edge metals, and accessories from a single manufacturer for each product required, unless approved by the Design Professional.
- B. Sheet Metal Standard: SMACNA – Architectural Sheet Metal Manual and NRCA Guidelines for Architectural Metal Flashings.
- C. Contractor Qualifications: A firm that has been engaged in sheet metal for a minimum of five (5) years.
- D. Manufacturer Qualifications: A firm that has been engaged in sheet metal fabrication for a minimum of ten (10) years.
- E. Environmental Standard: Manufacturer and contractor shall conform to Federal, State, and Local V.O.C. (Volatile Organic Compound) Regulations in area where the project is located. Notify Design Professional in writing if variations to the Contract Documents are required to comply with these regulations.

PART 2 – PRODUCTS

2.01 SHEET METALS

- A. Pre-Painted Steel Sheets and Finishes for Manufactured Systems: Steel sheets coated by the hot-dip process and prepainted by the coil coating process to comply with ASTM A-755.
 - 1. Aluminum Zinc Alloy-Coated Steel Sheet (Galvalume): ASTM A-792, Class AZ50 coating designation, Grade 40 (Class AZM150 coating designation, Grade 275); structural quality.
 - 2. Material Thickness: 24-Gauge Minimum, unless noted otherwise.
 - 3. Exposed Finish:
 - a. High Performance Organic Finish: Prepare, pre-treat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturer's written instructions.
 - b. Fluoropolymer 2-Coat System: Manufacturer's standard 2-coat, thermocured system consisting of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with physical properties and coating performance requirements of AAMA 2605, except as modified below:
 - i. Humidity Resistance: 2,000 hours
 - ii. Salt Spray Resistance: 2,000 hours
 - c. Color: Selected by Owner from Manufacturer's Standard Colors

2.02 SHINGLE ROOF FLASHINGS

- A. Apron Flashings: Fabricate in lengths not exceeding 10 feet with a lower flange of 4 inches (minimum) and vertical flange of 6 inches.
- B. Drip Edges: T-Type Drip Edge fabricated in lengths not exceeding 10 feet with minimum 4-inch flange over roof deck, a 1" T, and a 3-inch fascia flange with minimum 3/8-inch drip at lower edge. Fascia height to be modified based on field conditions.
- C. High Side Flashing: Shop-fabricated sheet metal flashing and continuous cleat.
- D. High Side Vent: Shop-fabricated sheet metal components and flashing. Perforated metal to be 0.050" aluminum with 3/16" round holes on 1/4" staggered centers to provide a net free area of 51%.
- E. Valley Flashing: W-shaped valley fabricated in lengths not exceeding 10 feet. Width of sheet shall be a minimum of 24". Inverted vee or center rib shall be a minimum of 1" high. Edges of valley flashing shall be hemmed.
 - 1. Accessories: 2" wide metal cleats.
- F. Step Flashing: 5" wide x 5" height x 10" length (Step flashing length may vary based on roof system manufacturer. In addition, a larger starter step flashing may be required in some instances. Verify with shingle manufacturer.)
 - 1. Length shall be a minimum of exposure + 2"
- G. Curb Flashing: Shop formed sheet metal flashing with a drip edge and continuous cleat at the base.
- H. Pan Flashing: 0.063" Aluminum Pan Flashing, Fully Welded with Powder Coat Finish complying with AAMA 2605.

2.03 ROOF EDGE FLASHING

- A. Manufactured Edge Metal System:
 - 1. Continuous Cleat: 24-gauge Galvalume steel.
 - 2. Fascia: 24-gauge Galvalume
 - 3. Accessories: Provide manufacturer's standard accessories for the edge metal system.
 - 4. Manufacturers:
 - a. Metal-Era; Waukesha, Wisconsin (One Drip Edge – Kynar Version)
 - b. W.P. Hickman Company; Asheville, North Carolina (Drip Edge Fascia – Kynar Version)

2.04 SHINGLE ROOF VENTED WALL FLASHING

- A. Manufactured Shingle Roof Vented Wall Flashing – A manufactured high-side wall ventilation flashing designed to be installed with a shingle roof system and provide attic ventilation. Vented Wall Flashing System shall be tested per TAS 100 for water infiltration resistance.

1. Continuous Z-Brackets: 20 Gauge, G90 Galvanized Steel
2. Ridge Vent Cover Material: 24-gauge Galvalume.
3. Perforated Metal Support Screen: 0.050" aluminum
4. Net Free Area Required: Minimum 12 sq. in. per linear foot
5. Accessories: Provide manufacturer's standard accessories for the vented wall flashing system. The accessories shall include, but not limited to, cover plates, supports, welded end caps, etc.
6. Manufacturers:
 - a. Metal-Era, Waukesha, Wisconsin (Hi-Perf Ridge Vent)
 - b. Or Approved Equal

2.05 GUTTERS

A. Manufactured Gutter System:

1. Gutter:
 - a. Material: 24-gauge Galvalume
 - b. Length: 50 feet minimum, continuous between expansion joints.
 - c. Size: 7"
 - d. Profile: Back of gutter to be a minimum of 1" higher than front.
2. Gutter Straps:
 - a. Material: 18-gauge galvanized
3. Expansion Joints: To be provided where indicated and not more than 50 feet on-center.
4. Accessories: Gutter baffles.
5. Manufacturers:
 - a. Dimensional Metals Incorporated (DMI); Reynoldsburg, Ohio (Continuous Gutter – CG70)
 - b. Metal Panel Systems, Inc.; Cincinnati, Ohio (Mig7)

2.06 DOWNSPOUTS

B. Manufactured Downspout:

1. Downspout
 - a. Material: 24-gauge Galvalume, corrugated
 - b. Length: 10 feet minimum
 - c. Size: As indicated on the project drawings or match existing.
2. Support Brackets
 - a. Material: 24 Gauge Galvalume,
 - b. Finish: Painted to match downspout color.
 - c. Profile: Both edge hemmed, and U-shaped.
 - d. Spacing: 5 feet on center maximum.
3. Accessories: Provide elbows, outlet tubes, and other accessories as required to complete the installation. Fasteners attaching the downspout to the downspout bracket shall be Series 300 stainless steel.
4. Manufacturers:
 - a. Dimensional Metals Incorporated (DMI); Reynoldsburg, Ohio

- b. Metal Panel Systems, Inc.; Cincinnati, Ohio

2.07 COLLECTOR BOX

- A. Fully-welded 0.063 aluminum collector box.
- B. Finish: Post-fabrication powder coat finish complying with AAMA 2605.
- C. Color: To match fascia system
- D. Size: To fit field conditions. Contractor to provide submittal for proposed size and configuration.
- E. Manufacturer:
 - 1. Metal-Era, Waukesha, Wisconsin
 - 2. W.P. Hickman Company, Asheville, North Carolina

2.08 COUNTERFLASHING

- A. Shop-Formed Counterflashing:
 - 1. Material: 24-gauge Galvalume with Kynar 500 finish
 - 2. Length: 10 feet
- B. Receivers:
 - 1. Material: 24-gauge Galvalume
 - 2. Finish: Kynar 500 finish
 - 3. Length: 10 feet

2.09 STORM COLLAR

- A. 26-gauge stainless steel flashing with soldered seams. Flashing shall provide a perimeter skirt to provide a minimum 3" overlap of a curb cover of roof flashing.
 - 1. Material: 26-gauge stainless steel
 - 2. Finish: Mill
 - 3. Manufacturer:
 - a. SBC Industries; Opa Locka, FL (Umbrella Bell Cap)
 - b. Or Approved Equal

2.10 KICK-OUT FLASHING

- A. Fabricated from 0.050" fully-welded aluminum with powder coat finish complying with AAMA 2605.

2.11 ACCESSORIES

- A. General: Provide materials and types of fasteners, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.

- B. Fasteners: Same metal as flashing or sheet metal, or other non-corrosive metal. Match finish of exposed heads with material being fastened. Provide wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads.
- Masonry Fasteners: 1/4" screw-type masonry anchor.
 - Sheet Metal Fasteners: #14 Self-drilling, self-tapping, stainless steel screws.
 - Blind Fasteners: 1/8" stainless steel pop-rivet.
 - Wood Fasteners: #10 pancake head screw or 1-1/2" ring-shanked hot-dipped galvanized roofing nails for areas where membrane is installed over the fasteners.
 - Gutter Brackets: Stainless steel #10 pancake head ultra-low profile fastener.
 - Where fasteners will be in contact with treated wood with preservative chemicals, provide fasteners and anchorage that are stainless steel or with a coating recommended by the manufacturer for use with treated woods and pass FM 4470 for corrosion resistance.
 - Expanding type anchors are not permitted.
- C. Sealing Washers: Composite stainless-steel washer with 0.060" EPDM bonded to the washer. These shall be utilized at all exposed fastener locations.
- D. Metal Lap Sealant: Polyisobutylene; extrudable sealant, non-migratory, nondrying, and non-skinning synthetic elastomer sealant. Comply with ASTM C919, ASTM E90, AAMA 809.2, or Federal Specification TTC-598-b Type 1.
- Use Locations: Concealed metal overlap joints.
 - Primer:
 - Manufacturers:
 - Sika Corp., Madison Heights, MI – Sikalastomer 511
 - Triangle Fastener Corp., Pittsburgh, PA – TFC Butyl
 - Pecora Corp., Harleysville, PA – BA-98
- E. Sealant: A one or two component polyurethane-based, non-sag elastomeric sealant. Comply with ASTM C920, Type S, Grade NS, Class 25.
- Use Locations: Exposed and concealed exterior sealant joints.
 - Color: To be selected by Owner from manufacturer's standard colors.
 - Primer: Manufacturer's primer to be utilized on all joints submerged in water and on substrate materials recommended by the sealant manufacturer.
 - Manufacturers:
 - BASF, Shakopee, MN – MasterSeal NP1 or NP2
 - Sika Corp., Madison Heights, MI – Sikaflex 1a or 2c
 - Pecora Corp., Harleysville, PA – DynaTrol I-XL
- F. Metal Accessories: Provide sheet metal clips, straps, anchoring devices, and similar accessory units as required for installation of work, matching or compatible with material being installed, non-corrosive, size and gauge required to resist the specified loads.

- G. Tape Sealant: A 100% solids, asbestos-free butyl tape sealant that is highly rubbery, tacky, reinforced compound designed for sealing metal lap joints. Complying with AAMA 804.3, AAMA 807.3, or Federal Specification TT-C-1796A, Type II, Class B.
1. Use Locations: Concealed metal overlap joints.
 2. Size: $\frac{3}{4}$ " wide x $\frac{3}{16}$ " thick min.
 3. Primer: Manufacturer's primer to be utilized on all joints submerged in water and on substrate materials recommended by the sealant manufacturer.
 4. Manufacturers:
 - a. Schnee-Morehead, Irving, TX – Tacky Tape
 - b. GSSI Sealants, Harleysville, PA – MB-10A Sealant Tape
 - c. Tremco Commercial Sealants & Waterproofing, Beachwood, OH - ET 675 Tape
- H. High Temperature Sealant: One component, fire-rated elastomeric neutral, moisture cure silicone sealant for use in through-penetrations firestops. Complying with ASTM C920, Type S, Grade NS, Class 25.
1. Use Locations: Exposed exterior joints exposed to high temperatures.
 2. Color: To be selected by Owner from manufacturer's standard colors.
 3. Primer: Manufacturer's primer to be utilized on all joints submerged in water and on substrate materials recommended by the sealant manufacturer.
 4. Manufacturers:
 - a. Sika Corp., Madison Heights, MI – Sikasil WS-295
 - b. Pecora Corp., Harleysville, PA – 864 NST
 - c. Rectorseal, Houston, TX – Metacaulk 835+

PART 3 – EXECUTION

3.01 INSPECTION

- A. Examine all substrates to receive sheet metal flashings and trim. If any unsatisfactory conditions exist, the Design Professional shall be notified and no work shall proceed until unsatisfactory conditions are corrected.

3.02 PREPARATION

- A. Coordinate all work closely with Design Professional as it relates to the installation of the sheet metal flashing and trim. Sheet metal flashing and trim will be installed as identified in the project specifications and drawings.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by providing a permanent separation layer as recommended by the material manufacturers.

3.03 INSTALLATION

- A. General:

1. Except as otherwise indicated, comply with manufacturer's installation instructions and recommendations, with SMACNA – "Architectural Sheet Metal Manual", and NRCA Guidelines for Architectural Metal Flashings.
2. Install work with provisions for thermal expansion of gutters, flashings, gravel stops, coping, fascia, and other items exposed for more than 10 feet continuous length. Maintain a watertight installation at expansion joint seams. Locate gutter expansion joints where indicated, or if not indicated, at a maximum of 50' on-center.
3. Torch cutting or abrasive grinding of sheet metal flashing and trim is not permitted.
4. Sheet metal work shall be watertight and weathertight; lines, breaks, and angles sharp and true, plain surfaces free from waves and buckles. Workmen shall be experienced in the trade and thoroughly capable of performing the work in accordance with these requirements.
5. Seal joints with metal lap sealant as required for watertight construction.

B. Shingle Roof Flashings

1. Valley Flashing: Valley shall be installed over underlayment. Secure top edge of the valley with fasteners 3" O.C. The edges of the valley are to be secured with cleats installed 24 inches O.C. Overlap joints shall be minimum 12 inches and bedded in 2 rows of metal lap sealant. Metal valley installation shall also follow the requirements of the shingle manufacturer and the project drawings.
2. Apron Flashing: Extend lower flange a minimum of 4" beyond each side of down slope asphalt shingles. Apron flashing shall hook onto a cleat secured over the shingle roof surface. Cleat shall be set in sealant. Apron flashing shall be secured to vertical wall surfaces 12" O.C.
3. Drip Edges: Install eave drip edge under underlayment and rake drip edge over underlayment and fasten to roof deck 8" O.C. slightly staggered. Overlap joints shall be a minimum of 4".
4. Step Flashing: Install step flashing between shingle courses at all rake-to-wall and curb penetration details. Step flashing shall overlap underlying step flashing a minimum of 2". Top edge of step flashing shall be secured to the roof deck with a minimum of 2 fasteners.

C. Roof Edge Flashing:

1. Install as recommended by the manufacturer.
2. The top of all walls shall be covered with waterproofing membrane prior to the installation of the edge metal system.
3. If fasteners penetrate the horizontal portion of the membrane, tape sealant shall be installed on the membrane at each fastener location.
4. The base clip shall be set in a bead of sealant in order to prevent water from penetrating under the roof edge flashing.
5. Provide splice plates and other accessories required for complete installation.

D. Gutters:

1. For non-moving seams, seal overlaps with metal lap sealant and rivet 2" on-center. The interior of the gutter shall be sealed with a sealant joint (bridge type

joint) at the joints. Provide expansion joints between downspouts, but not exceeding 50 feet apart.

2. Install gutter support straps at 24" on-center.
3. Provide pre-manufactured outlet tube sections extending 3" into downspouts.
4. Gutter laps 4" minimum and set in sealant as required.
5. Gutter Baffles: Shall be same material and color as the gutter. Shall be fabricated per SMACNA Figure 1-24A. Extend 6 inches above the front edge of the gutter. Install at all locations where there is a concentrated flow of water (i.e. ends of valleys, downspouts from upper roofs, etc.). The baffle shall extend a minimum of 24" from the center line of the concentrated flow of water in each direction. Secure to the gutter bead and provide support brackets at each gutter support strap.

E. Downspouts:

1. Provide downspout support brackets at 1' from the top and bottom of the downspout. Additional support brackets shall be located at 5' on-center.
2. Elbows and splash blocks shall be located at the end of each downspout.
3. The downspouts shall be terminated at 6" above the surface of the lower roof or elevation, connected into underground receiver pipe.

F. Counterflashing:

1. Counterflashings shall be installed as a removable, slip-type, surface mounted or reglet type counterflashing. Surface-mounted counterflashings are only to be used with permission of Design Professional.
2. Counterflashing shall be fabricated and installed to prevent horizontal surfaces that can pond water.
3. Counterflashing shall extend a minimum of 4" below top of base flashing and overlap 4" at the vertical joints.
4. Slip-type counterflashings shall extend vertically behind the existing flashing components a minimum of 3" to prevent wind-driven rain. Slip-type counterflashings shall be secured 16" on-center with the appropriate fastener with sealing washer.
5. Reglet-type counterflashing shall extend into the reglet a minimum of 1-1/2". The counterflashing shall be secured with the appropriate type fastener with sealing washers at 16" on-center.
6. Surface mounted counterflashings shall be installed into tape sealant and secured 12" on-center with the appropriate fastener with sealing washer.
7. Removable counterflashings shall be installed into a receiver and shall be secured 16" on-center.
8. The bottom edge of the counterflashing shall be formed tight against the roofing material but shall not cut into the roof material.
9. The counterflashing shall have end caps installed at all terminations.

G. Miscellaneous Metal Flashing:

1. Overlap joints a minimum of 4 inches and bed laps in metal lap sealant.
2. Seal work projecting through or mounted on roofing with roof system manufacturer-approved sealant materials and make weathertight.

3.04 COMPLETION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean off excess sealants.
- C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed. On completion of installation, clean finished surfaces, including removal of unused fasteners, metal filings or cuttings, pop rivet stems, and pieces of metal flashing. Maintain a clean condition during construction.
- D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.
- E. Work that does not conform to specified requirement including tolerances and finishes, shall be corrected and/or replaced as directed by the Design Professional, at Contractor's expense, without extension of time. Contractor shall also be responsible for cost of corrections to any Work affected by or resulting from correction to work of this Section.

END OF SECTION 07 62 00 – SHEET METAL FLASHING AND TRIM

07 22 00
ROOF ACCESSORIES

PART 1 –GENERAL**1.01 GENERAL REQUIREMENTS**

- A. The provisions of the General Conditions and the Sections included under Division 1, General Requirements, are included as a part of this Section as though bound herein.

1.02 SCOPE OF WORK

- A. Items covered by this specification section:
1. Splash Blocks
 2. Accessories

1.03 UNIT PRICE WORK

- A. The following work shall be added or deleted on a unit price basis in accordance with the requirements of Section 00 41 13. Where required, the scope of work per unit price shall be jointly assessed and agreed upon between the Design Professional and Contractor.
1. N/A

1.04 RELATED SPECIFICATIONS

Division 1	General Requirements
02 41 19	Selective Demolition
07 22 16	Roof Board Insulation
07 53 23	Ethylene-Propylene-Diene-Monomer (EPDM) Roofing

1.05 REFERENCES

- A. American Institute of Steel Construction (AISC)
1. S342L – Load and Resistance Factor Design Specification for Structural Steel Buildings

1.06 DEFINITIONS

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

1.07 PERFORMANCE REQUIREMENTS

- A. 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.

1.08 REUTILIZED MATERIALS

The following items shall be assumed to be fully salvageable and reusable:

1. N/A

1.09 SUBMITTALS

Submit in accordance with Section 01 33 00:

A. Product Data:

1. Submit manufacturer's product data for each type of accessory and product specified.

B. Material Safety Data Sheets (MSDS):

1. Submit an MSDS sheet for each material that will be utilized on-site.

C. Closeout Submittals:

1. Operation and Maintenance Data: For roof accessories to include in operation and maintenance manuals.
2. Warranty: Special warranty specified in this Section.

1.10 QUALITY ASSURANCE

- A. Source Limitations: Obtain each material and accessories from a single manufacturer for each product required, unless approved by the Design Professional.
- B. Where manufactured systems are specified, other field fabricated or shop/field fabricated substitutions will not be accepted, unless otherwise approved by the Design Professional.
- C. Environmental Standard: Manufacturer and contractor shall conform to Federal, State, and Local V.O.C. (Volatile Organic Compound) Regulations in area where the project is located. Notify Design Professional in writing if variations to the Contract Documents are required to comply with these regulations.

1.11 DELIVERY, STORAGE, AND HANDLING

- A. All products delivered to the site shall be in the original unopened containers, wrappings, or crating. Storage areas will be defined by Design Professional.
- B. Material shall be located on site in manner that overloading of any of the individual framing members does not occur.
- C. Handle all materials to prevent damage. Materials shall be secured in a safe manner to prevent damage.
- D. Store temperature susceptible materials in a dry and heated area between 60° F and 80° F. If exposed to lower or higher temperatures, the material shall be discarded and new material provided at no cost to the Owner.

- E. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Closely follow precautions/instructions outlined on container or supplied by manufacturer/supplier (MSDS sheets).

1.12 WEATHER LIMITATIONS ON WORK

- A. At ambient temperatures of 40 degrees F and below, including wind-chill, precautions must be taken to ensure that temperature-susceptible materials maintain their minimum acceptable temperature at the point of application as recommended by the roofing materials manufacturer.

1.13 PROJECT CONDITIONS (CAUTIONS AND WARNINGS)

- A. Contractor shall implement all necessary precautions to prevent debris or materials/equipment from becoming airborne due to wind conditions anticipated at the site. All roof removal materials shall be removed from the roof by an enclosed chute to the ground level. Contractor shall conform to all regulations and precautions as required by applicable safety organizations.

PART 2 – PRODUCTS

2.01 SPLASH BLOCKS

- A. Material Properties:
- Compressive Strength: 6,500 psi
 - Unit Weight: 150 lbs/ft³
 - Dimensions: 2-3/8" thick, 24" long, and 12" wide.
- B. Manufacturers:
- Sunny Brook Pressed Concrete Co., Kent, OH
 - Oberfield's Inc., Delaware, OH
 - Hanover Architectural Products
 - Oldcastle Precast, Inc.
 - Modern Precast, Inc.
 - Wilbert Precast, Inc.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine the available construction drawings and field verify all member sizes, spacing, and locations.
- B. Notify the Design Professional of any conditions that will affect the installation of the accessory immediately. Do not proceed with work until the deficiency has been corrected.

3.02 INSTALLATION

- A. Install all roof accessories per the manufacturer's installation instructions and the Contract Documents.

3.03 COMPLETION

- A. Clean all exposed surfaces in accordance with manufacturer's instructions. Touch up damaged finishes.
- B. Provide the Owner's operating instructions and accessories for all systems.

END OF SECTION 07 70 00 ROOF ACCESSORIES

07 92 00
JOINT SEALANTS

PART 1 - GENERAL**1.01 GENERAL REQUIREMENTS:**

- A. The provisions of the General Conditions and the Sections included under Division 1 - General Requirements, are included as part of this Section as though bound herein.

1.02 SCOPE OF WORK

- A. Work of this section shall provide Owner with a functional weathering surface by applying Joint Sealants within properly prepared joints.
- B. Items covered by this specification section:
1. EIFS Control Joints
 2. Building Expansion Joints
 3. Accessories

1.03 UNIT PRICE WORK

- A. The following work shall be added or deleted on a unit price basis in accordance with the requirements of Section 00 41 13. Where required, the scope of work per unit price shall be jointly assessed and agreed upon between the Owner's Representative and Contractor.
1. N/A

1.04 RELATED SPECIFICATIONS

Division 1	General Requirements
07 24 19	Water-Drainage Exterior Insulation and Finish System

1.05 REFERENCES

- A. American Architectural Manufacturers Association (AAMA)
1. AAMA 800 (804.3 and 807.3) – Voluntary Specifications and Test Methods for Sealants
- B. American Society of Testing and Materials (ASTM)
1. C920 – Standard Specification for Elastomeric Joint Sealants
 2. C1193 – Standard Guide for Use of Joint Sealants
 3. C1248 – Standard Test Method for Staining of Porous Substrate by Joint Sealants

C. Federal Specifications

1. TT-C-1796A – Caulking Compounds, Metal Seam and Wood Seam

1.06 DEFINITIONS

- A. Adhesive Failure: Failure of the bond between the sealant and the substrate.
- B. Cohesive Failure: Failure characterized by the rupture within the sealant.
- C. Initial Cure: The time period recommended by the sealant manufacturer before the sealant can be exposed to precipitation.
- D. Concealed Locations: Locations where the sealant joint will to be exposed to UV light, but may be exposed to moisture.
- E. Exposed Locations: Locations where the sealant joint will be exposed to UV light and moisture.
- F. High Temperatures: Temperatures over 160° F.

1.07 PERFORMANCE REQUIREMENTS

- A. General: Installed sealant shall remain watertight, do not permit the passage of water, and remain flexible in order to withstand thermally induced movement without failure.
- B. Material Compatibility: Provide sealant materials that are compatible with one another under conditions of service and application required, as demonstrated by sealant manufacturer, based on testing and field experience.
- C. Movement Capability: Provide sealant material with the following minimum joint movement capabilities:

Exterior Sealant Joints: +/- 50% Hybrid.
- D. Staining: Provide sealant materials that do not bleed into or stain the substrate.

1.08 REUTILIZED MATERIALS

The following items shall be assumed to be fully salvageable and reusable:

- 1. N/A

1.09 SUBMITTALS

Submit in accordance with Section 01 33 00:

- A. Product Data:
 - 1. Submit specifications, installation instructions, and general recommendations from sealant material manufacturers for each type of sealant specified. Include

data substantiating that materials comply with requirements of this specification, inclusive of accelerated weathering data.

B. Product Samples:

1. Sealant – Full range of manufacturer's standard colors.
2. Backer rod
3. Bond breaker tape

C. Material Safety Data Sheets (MSDS):

1. Submit an MSDS sheet for each material that will be utilized on-site.

D. Manufacturer Certification:

1. Submit written statement from sealant manufacturer that Contractor has experience in the application of specified sealant system, and the Contractor is approved by sealant manufacturer to install the system and receive the specified warranty.

E. Sample Warranty:

1. Submit copy of warranty from the sealant manufacturer.

F. Field Testing:

1. Submit test reports summarizing the results of the preconstruction field adhesion testing as outlined in the Quality Assurance section of this specification.

G. Mock-Up: Install a 5' section of sealant for each type of sealant joint for review by the Design Professional prior to proceeding with the work.

1.10 QUALITY ASSURANCE

A. Source Limitations: Obtain sealant materials and accessories from a single manufacturer for each product required, unless a different material is approved by the Design Professional.

B. Sealant Standard: Comply with Sealant, Waterproofing & Restoration Institute – Sealants: The Professionals' Guide. ASTM C1193 – Standard Guide for Use of Joint Sealants.

C. Contractor Qualifications: Contractor shall be experienced with projects similar in material, design, and extent to those indicated for this project and shall be approved by the sealant manufacturer.

D. Manufacturer Qualifications: Manufacturer shall be experienced with the manufacturer of the specified sealant system for a minimum of 10 years.

E. Preconstruction Field-Adhesion Testing: Before installing sealants, perform adhesion field tests for each type of sealant and joint substrate.

1. Locate test joints as directed by Design Professional.
2. Notify Design Professional seven (7) days in advance of dates and times when test joints will be installed.
3. Arrange for tests to take place with joint sealant manufacturer's technical representative present.
4. Test Method: Test joint sealants by hand-pull method described below:
 - a. Install joint sealants in 60-inch-long joints using same materials and methods for joint preparation and joint sealant installation required for completed work. Allow sealants to cure fully before testing.
 - b. Make knife cuts from one (1) side of joint to the other, followed by two (2) cuts approximately 2 inches long at sides of joint and meeting cross cut at one end. Place a mark 1 inch from cross-cut end of 2-inch piece.
 - c. Use fingers to grasp 2-inch piece of sealant between cross-cut and 1 inch mark; pull firmly at a 90 degree angle or more in direction of side cuts while holding a ruler alongside of sealant. Pull sealant out of joint to a distance recommended by sealant manufacturer for testing adhesive capability, but not less than that equaling specified maximum movement capability in extension; hold this position for 10 seconds.
 - d. For joints with dissimilar substrates, check adhesion to each substrate separately by extending cut along one side, checking adhesion to opposite side, and then repeating this procedure for opposite side.
 - e. After the adhesion has been check for the maximum movement capability, the sealant shall be pulled to failure.
5. After the initial preconstruction adhesion tests, conduct number of field adhesion tests for each type of sealant and each type of substrate as follows:
 - a. Not less than 10 tests for the first 1,000 feet of installed sealant and 1 test for each additional 1,000 feet of sealant installed. Additional tests may also be required by the Design Professional and shall be performed at no additional costs to the Owner.
 - b. The test locations shall be determined by the Design Professional.
6. Document results of field adhesion tests and record results in field adhesion test log.
7. Include in log data on pull distance used to test each joint sealant.
8. Include data on joints where material connected with pull portion of sealant failed to adhere to joint substrate or tore cohesively.
9. Inspect joints and record data for the following:
 - a. Joint width
 - b. Sealant thickness at the center of the joint
 - c. Sealant thickness at substrate
10. Report whether sealant in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
11. Evaluation of Preconstruction Field Adhesion Test Results: Sealants not

evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

12. Repair sealant test areas by removing damaged materials and applying sealant to test area using same procedure used to originally install the sealant.

- F. Field Color and Workmanship Samples: Install a section of sealant joint (in the work) a minimum of 5' in length for each joint configuration at least seven (7) days prior to the start of work for review by the Design Professional. When approved, the sample shall be used as a standard of comparison for the remainder of the work.

1.11 DELIVERY, STORAGE, AND HANDLING

1. Deliver all materials in unopened containers and/or packages bearing the manufacturer's name and brand identification.
2. Handle all materials to prevent damage. Store temperature susceptible materials in a dry heated area between 60° F and 80° F. If exposed to temperatures above or below the manufacturer's recommended storage temperature, the contractor shall properly dispose of the improperly stored material and provide new materials at Contractor's expense. Prior to use the sealant shall be conditioned to approximately 70° F and maintained until just prior to use.
3. Materials determined by the Design Professional to be damaged or to have been subjected to adverse conditions shall be removed and replaced at Contractor's expense.
4. All flammable materials shall be stored in a cool, dry area away from sparks and open flames.

1.12 WEATHER LIMITATIONS ON WORK

- A. Do not install sealant system during precipitation and shall not be started in the event there is a high probability of precipitation during the on-going work or prior to initial cure.
- B. Install sealants when ambient temperatures are between 40° F and 100° F.

1.13 PROJECT CONDITIONS (CAUTIONS AND WARNINGS)

- A. Do not apply over damp surfaces.
- B. Protect sealant joints from precipitation prior to initial cure.
- C. Do not apply when a moisture vapor transmission condition exists from the substrate as this can cause bubbling within the sealant.

1.14 MANUFACTURER'S REPRESENTATIVE

- A. Contractor shall require the presence of a Technical Representative of the material manufacturer to provide field instructions and recommendations as required by the project.

1.15 GUARANTEES AND MAINTENANCE

- A. The Effective Date of the Warranty/Guarantee shall not be prior to the date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which joint sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this section within specified warranty period.
 - 1. Warranty Period: Vertical Joints: Ten (10) years

PART 2 - MATERIALS

2.01 JOINT SEALANT – HYBRID

- A. A one component silicone/polyurethane hybrid, non-sag elastomeric sealant. Comply with ASTM C920, Type S, Grade NS, Class 50.
- B. Use Locations: Exposed and concealed exterior sealant joints.
- C. Color: To be selected by Owner from manufacturer's standard field tintable colors (min. 40 colors to choose from).
- D. Manufacturers:
 - 1. Sika Corp., Madison Heights, MI – Sikaflex-HY150
 - 2. Pecora Corp., Harleysville, PA - DynaTrol I-XL FTH

2.02 BUILDING EXPANSION JOINT

- A. Pre-fabricated, factory-applied, low-modulus silicone with open-cell polyurethane foam infused with a water-based, non-drying acrylic dispersion backer designed to be installed in a high movement joint (+/- 50%) and be free of tensile stress on the bond line.
- B. Manufacturers:
 - 1. Emseal Joint Systems, Ltd, Westborough, MA (Seismic Colorseal)
 - 2. Nystrom, Minneapolis, MN (SES)
 - 3. Balco, Wichita, KS (Pre-Compressed Primary Seal)

2.03 AUXILARY MATERIALS

- A. Primer: Primer to be high-solid, low-VOC, solvent-based primer for priming joints and substrates before application of sealant.
- B. Backer Rod: Closed cell foam backer rod sized to the opening. At fillet joint locations provide a triangular or one-quarter round backer rod.
- C. Bond Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint filler materials,

or joint surfaces at the back of the joint.

2.04 REJECTED MATERIALS

The Design Professional shall have the right to inspect all materials brought to or stored at the job site. Those materials that do not comply with the above requirements shall be removed from the Owner's premises within two (2) hours of verbal notification to the person designated by the Contractor to be the lead on site supervisor. The verbal notification will be by the Design Professional, which will be followed by written confirmation.

PART 3 - EXECUTION

3.01 INSPECTION

- A. A pre-job conference, including the Design Professional, Owner, and Contractor, shall be conducted prior to commencement of the Caulking or sealing Work.
- B. Examine substrates and conditions under which work is to be performed. Do not proceed until unsatisfactory conditions have been corrected as required for the material application in accordance with the material manufacturer's specifications and requirements.
- C. Notify the Design Professional in writing to all conditions which may adversely affect the installation and/or performance of the sealant system prior to commencing with the work. Proceed with installation only after unsatisfactory conditions have been corrected. Application of any part of the sealant system shall indicate acceptance of the existing conditions and acknowledgement of full responsibility for the quality and durability of the sealant.
- D. Contractor shall verify that investigation of all Work that may affect the General Public, Owner, and Owner's tenants has been completed, and adequate precautions have been implemented.

3.02 PREPARATION

- A. Contractor shall investigate all air intake ventilators, HVAC, open windows, and related equipment in the immediate and downwind area of the Work. Equipment or openings which may allow debris, dust, dirt, and fumes into the interior of the building shall be shut down and/or sealed. Contractor shall coordinate the closing of HVAC equipment with the Owner.
- B. Removal of existing caulking and sealing materials shall be performed in a way to provide Owner with a watertight system at all times during construction.
- C. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust paints (except permanent, protective coatings tested and approved for adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
- D. Porous Substrates: Clean surfaces by brushing, grinding blast cleaning, mechanical abrading, or a combination of these methods to produce clean, sound substrate capable

of developing optimum bond with joint sealers. Remove loose particles remaining by vacuuming or blowing out joints with oil-free compressed air.

- E. Nonporous Substrates: Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
- F. Concrete: Remove laitance and form-release agents from concrete.
- G. Joint Priming: Prime joints where recommended by the sealant manufacturer or where the Preconstruction Field-Adhesion Testing shows that a primer is needed. Prime all joints (i.e. gutter laps, below grade joints, horizontal surfaces, etc.) to be immersed under water.

Primer shall be confined to areas where joint sealant will be applied. Do not allow primer to migrate to surfaces that will remain exposed after sealant joint installation.

- H. Joint Backing:
 - 1. Install backer rod or bond breaker tape in joints to prevent 3-sided bonding, which will cause the joint to fail prematurely.
 - 2. Backer rods shall be sized to 25% to 50% larger than the joint.
 - 3. Install backing to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 4. Do not leave gaps between ends of sealant backings.
 - 5. Do not stretch, twist, braid, puncture, or tear sealant backings.
 - 6. Remove absorbent sealant backings that have become wet before sealant installation and replace them with dry materials.
- I. Protection of Adjacent Surfaces: Use masking tape, where required, to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal. Where adequate grooves for caulking have not been provided, grooves shall be prepared by cutting and cleaning out the mortar to the minimum depth and by grinding to the minimum width, taking care that adjoining metal work is not reduced in section.
- J. Where a suitable mortar backstop has not been provided, the back of joint grooves shall be packed tightly with backer rod.

3.03 GENERAL

- A. Application of the sealant systems shall be in accordance with the sealant manufacturer's recommendations and additional requirements of the project specifications and drawings. Material manufacturer's recommendations related to

weather (temperature, moisture, and humidity), surface preparation, and shelf life must be observed.

- B. All work shall be scheduled and executed without exposing the interior building areas to the effects of inclement weather. The building and its contents shall be protected against all risks.

3.04 INSTALLATION OF JOINT SEALANTS

- A. Install sealants so they directly contact and fully wet joint substrates.
- B. Completely fill recesses provided for each joint configuration.
- C. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- D. Sealant Tooling:
 - 1. Immediately after sealant application and before skinning or curing begins, tool sealants to form a smooth, uniform joints; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 2. Remove excess sealants from surfaces adjacent to joint.
 - 3. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 4. Provide concave joint configuration unless otherwise specified.
- E. Install joint sealants in accordance with ASTM C 1193 as applicable to materials, applications, conditions indicated, and with the following profile configurations:
 - 1. Fillet: Figure 5.
 - 2. Bridge: Figure 6.
 - 3. Butt: Figure 8A (concave tooling), generally hour-glass shape with 2:1 width-to-depth ratio.
- F. Protection: 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 the original work.

3.05 BUILDING EXPANSION JOINT INSTALLATION

- A. Remove the existing building expansion joint and prepare the sealant joint substrate as outlined in this specification and repairing any existing substrate joint damage.
- B. Install expansion joint material per the manufacturer's recommendations and installation instructions.

- C. Apply sealant along edge of pre-applied sealant facing and tool.
- D. All corners and transitions shall be completed utilizing the manufacturer's typical details and installation requirements.
- E. Protection: 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 the original work.

3.06 CLEANING

- A. The surfaces of all materials adjoining caulked joints shall be cleaned of smears of compound or other soiling resulting from caulking application.
- B. On non-porous surfaces, excess uncured sealing material shall be removed with a solvent moistened cloth immediately.
- C. On porous surfaces, excess sealing material shall be allowed to cure overnight, then removed by lightly wire brushing or sanding.
- D. Clean adjacent surfaces free of sealing material or soiling resulting from this work as work progresses. Use solvent or cleaning agent as recommended by sealing material manufacturer. All finish work shall be left in a neat, clean condition.
- E. Remove all covers and masking from equipment, etc., only after danger of fumes entering the building has passed.

3.07 COMPLETION

- A. Correction of Work

Work which does not conform to specified requirements including tolerances, slopes and finishes shall be corrected and/or replaced as directed by Design Professional at Contractor's expense without extension of time. Therefore, Contractor shall also be responsible for cost of correction to any work affected by or resulting from corrections to work of this section.

- B. Site clean-up, including both interior and exterior building areas that have been affected by construction, shall be restored to pre-construction condition.

All landscaped areas affected by construction activities shall be raked clean, seeded, or restored to pre- construction condition.

- C. All manufacturers' on-site inspection reports shall be submitted prior to final payment.
- D. All guaranties, as required in Part 1 of this specification, shall be submitted for approval prior to final payment.

END OF SECTION 07 92 00 – JOINT SEALANTS

26 41 13**LIGHTNING PROTECTION FOR STRUCTURES****PART 1 - GENERAL****1.01 GENERAL REQUIREMENTS**

- A. The provisions of the General Conditions and the Sections included under Division 1 - General Requirements, are included as part of this Section as though bound herein.

1.02 SCOPE OF WORK

- A. The intent of this specification is to remove the existing lightning protection system and install a new lightning protection system on roof areas that are being replaced. Provide new down conductor flashing components, but the existing down conductors and below roof components are to be re-utilized.
- B. Items covered by this specification section:
1. Air terminals and bases
 2. Conductor
 3. Roof penetrations
 4. Pre-Fabricated Stainless Steel Coping Brackets
 5. Accessories

1.03 UNIT PRICE WORK

- A. The following work shall be added or deleted on a unit price basis in accordance with the requirements of Section 00 41 13. Where required, the scope of work per unit price shall be jointly assessed and agreed upon between the Design Professional and Contractor.

1. N/A

1.04 RELATED SPECIFICATIONS

Division 1	General Requirements
02 41 19	Selective Demolition
07 31 13	Asphalt Shingles
07 53 23	Ethylene-Propylene-Diene-Monomer (EPDM) Roofing
07 62 00	Sheet Metal Flashing and Trim

1.05 REFERENCES

- A. Lightning Protection Institute (LPI)
1. 175 – Lightning Protection Installation Code
- B. National Fire Protection Association (NFPA)
1. 780 – Standard for Installation of Lightning Protection Systems

C. Underwriters Laboratories Inc. (UL)

1. UL96 – Lightning Protection Systems Standards for Components
2. UL96A – Installation Requirements for Lightning Protection Systems

1.06 PERFORMANCE REQUIREMENTS

- A. General: Installed lightning protection system shall be installed per UL96A and NFPA 780. If a complete system is not specified, the components that are installed are installed in accordance with these standards.
- B. Material Compatibility: Provide lightning protection materials (i.e. adhesive, protection mats, lightning protection material, etc.) that are compatible with one another (and the roof system) under conditions of service and application required.

1.07 REUTILIZED MATERIALS

The following items shall be assumed to be fully salvageable and reusable:

2. Existing ground electrodes.
3. Existing down conductors.

1.08 SUBMITTALS

Submit in accordance with Section 01 33 00:

A. Product Data:

1. Submit specifications, installation instructions, and general recommendations from lightning protection materials manufacturers for each lightning protection component required.

B. Shop Drawings:

1. Submit shop drawings showing the location of the lightning protection system aerials, conductor cables, through roof penetrations, and attachment methods as required to comply with the current lightning protection standard.
2. If additional down conductors are required, contractor shall indicate these on the shop drawings and provide a letter outlining the need for additional down conductors as part of the project submittals.

C. Material Safety Data Sheets (MSDS):

1. Submit an MSDS sheet for each material that will be utilized on-site.

D. Contractor Certification:

1. Submit written statement from Contractor indicating three (3) years of successful experience with installation of lightning protection systems, including project name and location, type of roofing, and scopes of work which are equivalent to work of this section.

E. Close-Out Submittal:

1. Submit written photographic documentation of the concealed lightning protection system components that were installed as part of this project.

1.09 QUALITY ASSURANCE

- A. Source Limitations: Obtain masonry units, flashing materials, and accessories from a single manufacturer for each product required, unless approved by the Design Professional.
- B. Contractor Qualifications: A firm that has been engaged in the design and installation of lightning protection systems for a minimum of five (5) years.
- C. Manufacturer Qualifications: A manufacturer regularly engaged in the production of lightning protection equipment. The manufacturer shall be listed by UL as a manufacturer of lightning protection components.
- D. Lightning Protection System Inspection: The Contractor shall apply for inspection of the completed system by UL field representatives. The system is to be inspected by Underwriters Laboratories Inc., or other ANSI certified testing agency for compliance with NFPA 780. The system shall be without deviation and the UL field representative will issue a "UL Master Label Certificate of Inspection for Lightning Protection Systems" or "Letter of Findings" at completion of the installation.
- E. Environmental Standard: Manufacturer and contractor shall conform to Federal, State, and Local V.O.C. (Volatile Organic Compound) Regulations in area where the project is located. Notify Design Professional in writing if variations to the Contract Documents are required to comply with these regulations.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. All products delivered to the site shall be in the original unopened containers, wrappings, or crating. Storage areas will be defined by Design Professional.
- B. Handle all materials to prevent damage. Materials shall be secured in a safe manner to prevent damage.
- C. Store temperature susceptible materials in a dry and heated area between 60° F and 80° F. If exposed to lower or higher temperatures, the material shall be discarded and new material provided at no cost to the Owner.
- D. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Closely follow precautions/instructions outlined on container or supplied by manufacturer/supplier (MSDS sheets).

1.11 WEATHER LIMITATIONS ON WORK

- A. At ambient temperatures of 40 degrees F and below, including wind-chill, precautions must be taken to ensure that temperature-susceptible materials maintain their minimum acceptable temperature at the point of application as recommended by the roofing materials

manufacturer.

1.12 PROJECT CONDITIONS (CAUTIONS AND WARNINGS)

- A. Contractor shall implement all necessary precautions to prevent debris or materials/equipment from becoming airborne due to wind conditions anticipated at the site. Contractor shall conform to all regulations and precautions as required by applicable safety organizations.

PART 2 - MATERIALS

2.01 MATERIALS

- A. All materials used in the installation shall be new and shall comply with weight, size, and composition as required by UL 96A and NFPA 780 and shall be labeled or listed by Underwriters Laboratories Inc. for use in lightning protection systems. The system furnished under this specification shall be the standard product of a manufacturer.
- B. Material Requirements:
 - 1. Class I materials shall be used on structures or portions of structures that do not exceed 75 feet in height above grade level. Class II materials shall be used on structures that exceed 75 feet in height above grade level.
 - 2. Copper materials shall not be mounted on aluminum, Galvalume, Galvanized steel, or zinc surfaces. This includes those materials that have been painted.
 - 3. Aluminum materials shall not come in contact with earth or where rapid deterioration is possible. Aluminum materials shall not come into contact with copper surfaces or where exposed to runoff from copper surfaces. Aluminum materials shall not be attached to surfaces covered with alkaline-based paint, embedded in concrete or masonry, or installed in a location subject to excessive moisture.

2.02 AIR TERMINALS

- A. Air terminals shall extend a minimum of ten inches above the object or area they are to protect. Air terminals shall be located at intervals not exceeding 20'-0" along ridges of pitched roofs and along the perimeter of flat or gently sloping roofs (flat or gently sloping roofs include roofs that have a pitch less than 3:12). Flat or gently sloping roofs exceeding 50'-0" in width shall be provided with additional air terminals located at intervals not exceeding 50'. Air terminals shall be located within two feet (2') of the ends of ridges, roof edges and outside corners of protected areas.
- B. Air terminals shall be installed on stacks, flues, mechanical units and other objects not located within a zone of protection. Permanent metal objects on the structure having an exposed metal thickness 3/16" or greater may be substituted for air terminals and shall be connected to the lightning protection system as required by the specified standards using main size conductor and bonding plates having a minimum of 3 square inches of surface contact area.
- C. Air terminal bases shall be securely fastened to the structure in accordance with the specified standards. Fasteners may include stainless steel screws, bolts, anchors or adhesive. Adhesive shall be compatible with the surface on which it is used. Any protective

sheets or pads that may be required shall be supplied and installed by the roofing contractor.

- D. Main conductors shall be sized as Class I or Class II materials in accordance with the specified standards. Conductors shall provide two way, horizontal or downward path from each strike or air terminal to connections to the lightning protection ground electrode system. Conductors shall be free of excessive splices and no bend of a conductor shall form an included angle of less than 90 degrees nor have a radius of less than 8 inches.
- E. Conductors shall be securely fastened to the structure on which they are placed at intervals not exceeding 3'. Fasteners shall be of the same material or of a material equally resistant to corrosion as that of the conductor. Any protective sheets or pads that are required shall be installed by the roofing contractor.
- F. Connector fittings shall be listed for the purpose and of the same material as the conductor or of electrolytically compatible materials.
- G. Down conductors shall be sized as Class I or Class II materials in accordance with the specified standards. Class II conductors from a higher portion of the structure shall continue to connections to the lightning protection ground electrode system. Down conductors shall be spaced at intervals averaging not more than 100 feet around the perimeter of the structure. In no case shall a structure have fewer than two down conductors. Where down conductors are installed exposed on the exterior of a structure and are subject to physical damage or displacement, guards shall be used to protect the conductor a minimum of 6' above grade. Metallic guards shall be bonded at each end.
- H. In case of structural steel frame construction, down conductors may be omitted and roof conductors shall be connected to the structural steel frame at intervals not exceeding 100 feet along the perimeter of the structure.

2.03 ROOF PENETRATIONS

- A. Roof penetrations required for down conductors or for connection to structural steel framework shall be made using thru-roof assemblies with solid riser bars or conduits and appropriate roof flashing. Conductors shall not pass directly through the roof.
- B. The required roof flashing must be completed by the roofing contractor.

2.04 PRE-FABRICATED STAINLESS STEEL COPING BRACKETS

- A. 14 Ga. stainless steel bracket designed to be attached to the top of the parapet wall and extend down under the coping cap to the inside of the parapet wall to support the lightning protection cable and lightning rod bases. Width of each component as recommended by the bracket manufacturer.
- B. Manufacturers:
 - 1. allG Fabrication, Argyle, TX
 - 2. Or Approved Equal

2.05 REJECTED MATERIALS

- A. The Design Professional shall have the right to inspect all materials brought to or stored at the job site. Those materials which do not comply with the above requirements shall be removed from the Owner's premises within two (2) hours of verbal notification to the person designated by the Contractor to be the lead on-site supervisor. The verbal notification to be by the Design Professional, which will be followed by written confirmation.

PART 3 - EXECUTION

3.01 INSPECTION

- A. A pre-job conference including the Design Professional, Owner's Representative, Contractor, the manufacturer's representative and all involved trades shall be conducted prior to commencement of the lightning protection work.
- B. Examine the substrate and the conditions under which the work is to be performed. Do not proceed until unsatisfactory conditions have been corrected as required for the installation and in accordance with the material manufacturer's specifications and specified standards.
- C. Notify the Design Professional in writing to all conditions which may adversely affect the installation and/or performance of the lightning protection system prior to commencing with the work. Proceed with installation only after unsatisfactory conditions have been corrected. Application of any part of the lightning protection system shall indicate acceptance of the roof surface and acknowledgment of full responsibility for the quality and durability of the roofing.

3.02 PREPARATION

- A. General: The roof installation shall be complete in the area where the lightning protection system is to be installed.
- B. Through roof penetrations shall be installed during the roof replacement and all flashing work shall be completed by the roofing contractor.

3.03 INSTALLATION

- A. The installation of the lightning protection system shall be done in a neat and workmanlike manner.
- B. The lightning protection system shall be installed by or under the supervision of a UL listed lightning protection installer.
- C. The installers shall have completed factory training and be certified by the manufacturer.
- D. Install the lightning protection system in accordance with the approved shop drawings and the referenced lightning protection installation standards. Any deviations shall be brought to the immediate attention of the manufacturer so as to not delay certification.
- E. Coordinate the installation of the lightning protection system with other trades.

3.04 PROJECT DOCUMENTATION

- A. Photo document all concealed portions of the lightning protection system as they are being installed. This includes lightning protection system grounding electrodes, connections to structural metal, connections to underground metal piping entering the structure, connections to electrical and electronic service grounds, ground rings, etc. This documentation shall be provided as a Close-Out submittal.
- B. Maintain accurate "As-Built" drawings throughout the entire installation of the lightning protection system.

3.05 INSPECTION, CERTIFICATION, AND MAINTENANCE

- A. At completion of the installation of the lightning protection system, the contractor shall apply for inspection of the system by UL field representative. The system is to be inspected for compliance with NFPA 780.
- B. The Contractor shall provide the Letter of Findings of the UL inspection for the portion of the project where the lightning protection system was installed and/or modified.
- C. Any issues, that part of this project, identified during the UL inspection shall be corrected by the Contractor at no cost to the Owner. Written notice shall be provided to the Owner's Representative and Design Professional for any issues that are identified during the UL inspection and are beyond the scope of this project.

3.06 COMPLETION

- A. Correction of Work
 - 1. Work which does not conform to specified requirements or standards shall be corrected and/or replaced at Contractor's expense without extension of time. Therefore, Contractor shall also be responsible for cost of correction to any work affected by or resulting from corrections to work of this section.
- B. Site clean-up, including both interior and exterior building areas that have been affected by construction, shall be restored to pre-construction condition.

All landscaped areas affected by construction activities shall be raked clean, seeded, or restored to pre-construction condition.
- C. All manufacturer's on-site inspection reports shall be submitted prior to final payment.
- D. All guaranties, as required in Part 1 of this specification, shall be submitted for approval prior to final payment.

END OF SECTION 26 41 13 – LIGHTNING PROTECTION FOR STRUCTURES

32 92 00
TURFS AND GRASSES

PART 1 - GENERAL**1.01 GENERAL REQUIREMENTS:**

- A. The provisions of the General Conditions and the Sections included under Division 1 - General Requirements, are included as part of this Section as though bound herein.

1.02 SCOPE OF WORK

- A. Work of this section shall provide Owner with: 1. Properly graded lawn areas that properly drain; 2. Grass surfaces that are equal to the preconstruction condition.
- B. Items covered by this specification section:
1. Lawn maintenance during construction (contractor work areas).
 2. Lawn renovation.
 3. Replacement of shrubs damaged during construction.

1.03 UNIT PRICE WORK

- A. The following work shall be added or deleted on a unit price basis in accordance with the requirements of Section 00 41 13. Where required, the scope of work per unit price shall be jointly assessed and agreed upon between the Owner's Representative and Contractor.
1. N/A

1.04 RELATED SPECIFICATIONS

02 41 19 Selective Demolition

1.05 REFERENCES

- A. American Society of Testing and Materials (ASTM)
1. C602 – Standard Specification for Agricultural Lime
 2. D5268 – Standard Specification for Topsoil Used for Landscaping Purposes

1.06 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil.
- B. Manufactured Soil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilizing organic soil amendments to produce topsoil or planting soil.
- C. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.

- D. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath planting soil.
- E. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

1.07 PERFORMANCE REQUIREMENTS

- A. Lawn Maintenance: In construction areas that cannot be accessed by the Owner's personnel for mowing, the contractor shall periodically mow the lawn in order to prevent excessive grass height.
- B. Lawn Renovation: Areas of the existing lawn that were damaged during construction activities shall be restored to the preconstruction condition.
- C. Shrub Replacement: Shrubs that are damaged during construction activities shall be restored to the preconstruction condition.

1.08 REUTILIZED MATERIALS

The following items shall be assumed to be fully salvageable and reusable:

- 1. Existing soil – where not extensively contaminated with construction debris.

1.09 SUBMITTALS

Submit in accordance with Section 01 33 00:

- A. Product Data: For each type of product specified.
- B. Material Safety Data Sheets (MSDS):
 - 1. Submit an MSDS sheet for each material that will be utilized on-site.
- C. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
- D. Contractor Qualification: Submit qualification information for the landscaping installer.
- E. Product Certificates: For soil amendments and fertilizers from product manufacturer.
- F. Planting Schedule: Indicating anticipated planting dates for each type of planting.

1.10 QUALITY ASSURANCE

- A. Source Limitations: Obtain materials and accessories from a single manufacturer for each product required, unless a different material is approved by the Design Professional.

- B. Installer Qualifications: A qualified landscape installer whose work has resulted in successful lawn establishment.
- C. Seeds: Packages of seed shall bear official State or Federal stamps or certificates indicating type, quality, and content of seed packages. Deliver packages unopened. Do not open until observed by Design Professional.
- D. Requirements of Regulatory Agencies: Comply with all Federal and State laws governing fertilizers.

1.11 DELIVERY, STORAGE, AND HANDLING

- 1. Seed: Deliver seed in original sealed, labeled, and undamaged containers.
- 2. Bulk Materials
 - a. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
 - b. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
 - c. Accompany each delivery of bulk fertilizers, lime, and soil amendments with appropriate certificates.

1.12 WEATHER LIMITATIONS ON WORK

- A. Seeding operations shall be conducted under favorable weather conditions.

1.13 PROJECT CONDITIONS (CAUTIONS AND WARNINGS)

- A. Seeding operations shall not be started until the construction work has progressed to the point that traffic across the lawn is no longer required.
- B. Irrigation: Do not begin operations until some type of irrigation system is in place and operating to provide uniform coverage of all areas to receive seed.

PART 2 - MATERIALS

2.01 SEED

- A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Journal of Seed Technology; Rules for Testing Seeds" for purity and germination tolerances.
- B. Seed Species: Seed of grass species as follows, with not less than 85 percent germination, not less than 98 percent pure seed, not more than 0.05 percent weed seed:
 - 1. 40% Perennial rye grass (*lolium perenne*)
 - 2. 30% Kentucky bluegrass (*Poa pratensis*)

3. 30% Creeping red fescue (*Festuca rubra*)

2.02 FERTILIZER

- A. Fertilizer: Commercial fertilizer shall be used for initial preparation and shall conform to applicable state fertilizer laws. Use of organic lawn fertilizer shall be used for surface application after grass is up. Fertilizer shall be uniform in composition, dry and free flowing, and shall be delivered to site in original, unopened containers, each bearing manufacturer's guaranteed analysis. Fertilizer, which becomes caked or otherwise damaged, making it unsuitable for use, will not be acceptable. Commercial-grade complete fertilizer of neutral character, consisting of fast and slow release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium.

2.03 REJECTED MATERIALS

The Design Professional shall have the right to inspect all materials brought to or stored at the job site. Those materials that do not comply with the above requirements shall be removed from the Owner's premises within two (2) hours of verbal notification to the person designated by the Contractor to be the lead on site supervisor. The verbal notification will be by the Design Professional, which will be followed by written confirmation.

PART 3 - EXECUTION

3.01 INSPECTION

- A. A pre-job conference, including the Design Professional, Owner, and Contractor, shall be conducted prior to commencement of the Turf and Grasses Repair Work.
- B. Examine substrates and conditions under which work is to be performed. Do not proceed until unsatisfactory conditions have been corrected as required for the material application in accordance with the material manufacturer's specifications and requirements.
- C. Notify the Design Professional in writing to all conditions which may adversely affect the installation and/or performance of the sealant system prior to commencing with the work. Proceed with installation only after unsatisfactory conditions have been corrected. Repair of any part of the turfs and grasses shall indicate acceptance of the existing conditions and acknowledgement of full responsibility for the quality and durability of the sealant.
- D. Contractor shall verify that investigation of all Work that may affect the General Public, Owner, and Owner's tenants has been completed, and adequate precautions have been implemented.

3.02 PREPARATION

- A. Contractor shall investigate all air intake ventilators, HVAC, open windows, and related equipment in the immediate and down wind area of the Work. Equipment or openings which may allow debris, dust, dirt, and fumes into the interior of the building shall be shut down and/or sealed. Contractor shall coordinate the closing of HVAC equipment with

the Owner.

- B. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
- C. Remove foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oil, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing debris, or acid that has been deposited in the soil from the construction work. Any foreign matter shall be properly disposed of in accordance with all applicable laws.
- D. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
- E. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
- F. Uniformly moisten excessively dry soil that is not workable and which is too dusty.

3.03 LAWN PREPARATION

- A. Limit lawn subgrade preparation to areas to be planted.
- B. Unchanged Subgrades: If lawns are to be planted in areas unaltered or undisturbed by excavating, grading, or surface-soil stripping operations, prepare surface soil as follows:
 - 1. Remove existing grass, vegetation, and turf. Do not mix into surface soil.
 - 2. Loosen surface soil to a depth of at least 6 inches. Apply fertilizers according to planting soil mix proportions and mix thoroughly into top 4 inches of soil. Till soil to a homogeneous mixture of fine texture.
 - 3. Remove stones larger than ½" in any dimension and sticks, roots, trash, and other extraneous matter.
 - 4. Legally dispose of waste material, including grass, vegetation, and turf, off Owner's property.
- C. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus ½" of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be planted in the immediate future.
- D. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- E. Before planting, restore areas if eroded or otherwise disturbed after finish grading.

3.04 SEEDING

- A. Sow seed with spreader or billion seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
 - 1. Do not use wet seed or seed that is moldy or otherwise damaged.

2. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.
- B. Sow seed at a total rate of 5 to 8 lb./1,000 sq.ft.
- C. Rake seed lightly into top 1/8" of soil, roll lightly, and water with fine spray.
- D. Protect seeded areas with slopes exceeding 1:4 with erosion-control blankets and 1:6 with erosion-control fiber mesh installed and stapled according to manufacturer's written instructions.
- E. Anchor straw mulch by crimping into soil with suitable mechanical equipment.

3.05 LAWN RENOVATION

- A. Rutted Areas:
 1. If required, remove topsoil containing foreign materials resulting from contractor's operations and replace with new topsoil.
 2. Till area to be renovated to a depth of 6".
 3. Apply initial fertilizers required for establishing new lawns and mix thoroughly into top 4" of existing soil. Provide new planting soil to fill low spots and meet finish grades.
 4. Grade the area to be renovated.
 5. Apply seed and protect with straw mulch.
- B. Moderate to Heavily Trafficked Areas:
 1. If required, remove topsoil containing foreign materials resulting from contractor's operations and replace with new topsoil.
 2. Till area to be renovated to a depth of 6".
 3. Apply initial fertilizers required for establishing new lawns and mix thoroughly into top 4" of existing soil. Provide new planting soil to fill low spots and meet finish grades.
 4. Grade the area to be renovated.
 5. Apply seed and protect with straw mulch.
- C. Light to Moderate Trafficked Areas:
 1. Mow, dethatch, core aerate, and rake the existing lawn.
 2. Apply fertilizer to the area to be renovated.

3. Overseed the area by broadcasting 3 to 4 lb./1,000 square feet of renovation area.
- D. Short-Term Material Storage Areas:
1. Mow, dethatch, core aerate, and rake the existing lawn.
 2. Apply fertilizer to the area to be renovated.
 3. Overseed the area by broadcasting 3 to 4 lbs/1,000 square feet of renovation area.
- E. Long-Term Material Storage Areas:
1. If required, remove topsoil containing foreign materials resulting from contractor's operations and replace with new topsoil.
 2. Till area to be renovated to a depth of 6".
 3. Apply initial fertilizers required for establishing new lawns and mix thoroughly into top 4" of existing soil. Provide new planting soil to fill low spots and meet finish grades.
 4. Grade the area to be renovated.
 5. Apply seed and protect with straw mulch.

3.06 LAWN MAINTENANCE – DURING CONSTRUCTION

- A. In contractor traffic paths and material storage areas, the contractor shall periodically mow the grass to maintain the height of the grass to a reasonable height.

3.07 SHRUB REPLACEMENT

- A. Remove the existing shrub and root ball of any trees and shrubs damaged during the course of the project.
- B. Provide new trees and shrubs to match existing species and size. Plant new trees and shrubs as recommended by the planting instructions.
- C. On trees provide tree stakes and guy wire supports to prevent displacement in high winds.
- D. Water the shrubs at least twice a week until they are established.

3.08 COMPLETION

- A. Correction of Work

Work which does not conform to specified requirements including tolerances, slopes and finishes shall be corrected and/or replaced as directed by Design Professional at

Contractor's expense without extension of time. Therefore, Contractor shall also be responsible for cost of correction to any work affected by or resulting from corrections to work of this section.

- B. All guaranties, as required in Part 1 of this specification, shall be submitted for approval prior to final payment.

END OF SECTION 32 92 00 – TURFS AND GRASSES