PROJECT MANUAL

FOR

115 CHATHAM STREET
SANFORD, NORTH CAROLINA 27330

BUGGY BUILDING ROOF REPLACEMENT
115 CHATHAM STREET
SANFORD, NORTH CAROLINA 27330
REI PROJECT NO. R25RAL-051

09-28-2026

PREPARED BY:

9121 ANSON WAY, SUITE 100, RALEIGH, NC 27615

NORTH CAROLINA FIRM LICENSE C-1520

SECTION 00 01 07

SEALS PAGE

PART 1 GENERAL

1.01 SUMMARY

A. Design Firm for Buggy Building Roof Replacement with Project Manual dated 09-28-2026:
   1. REI Engineers, Inc, 9121 Anson Way, Suite 100, Raleigh, NC 27615.
   2. North Carolina Firm License C-1520

Professional Engineer



END OF SECTION

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PART 1 GENERAL

1.01 SUMMARY

A. The following drawings dated 09-28-2026 are included as part of the Contract Documents:

1. G-001 Cover
2. G-002 Building Code Summary
3. XR101 Roof Plan
4. XR301 Roof Systems
5. XR501 Details
6. XR502 Details
7. XR503 Details
8. XR504 Details

END OF SECTION

SECTION 00 11 13

ADVERTISEMENT FOR BIDS

PART 1 GENERAL

1.01 PROJECT INFORMATION

A. Project Name: Buggy Building Roof Replacement

B. Project Address: 115 Chatham Street Sanford, North Carolina, 27330

C. Owner: Lee County Government of North Carolina

1.02 BIDS

A. Sealed bids for the project will be received from bidders by the Owner at 115 Chatham Street, Sanford, North Carolina 27330 until 9:00 AM on 11-10-2026, at which time they will be publicly opened and read. Please note that, as stated in Section 00 21 13 Instruction to Bidders, two complete bid packages must be submitted - if only one bid package is submitted the bid will be rejected. Both bid packages may be in one sealed envelope. Please note that Digital submissions are not allowed. Bids should be labeled with bid names and number and mailed, or hand delivered to:

Attention Purchasing Agent
Lee County Government of North Carolina
115 Chatham Street, Suite 301
Sanford, NC 27330

1.03 PROJECT DOCUMENTS

A. Electronic project documents may be obtained from the Engineer at 9121 Anson Way, Suite 100, Raleigh, NC 27615. Contact John Davinson. jdavinson@reiengineers.com

1.04 BIDDING REQUIREMENTS

A. All bidders are hereby notified that they shall be properly licensed under the state laws governing their trades.

B. Bid security in the amount equal to not less than 5% of the gross amount of the bid is required.

C. A Performance Bond and Payment Bond in the amount of the contract is required.

D. Submit questions to John Davinson in writing to the Project Manager's email address listed above no later than 5:00 PM at least 10 days prior to the bid due date.

1.05 PRE-BID MEETING

A. A Pre-Bid Meeting is scheduled for 9:00 AM on 10-27-2026 at the project address listed above.

B. Attendance is mandatory.

END OF SECTION

SECTION 00 21 13

INSTRUCTIONS TO BIDDERS

PART 1 GENERAL

1.01 DEFINITIONS

A. The Bidding Documents consist of the Advertisement or Invitation to Bid, Instructions to Bidders, Bid Form, and other sample bidding and contract forms.

B. The proposed Contract Documents consist of the Form of Agreement between the Owner and Contractor, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications and Addenda issued prior to execution of the Contract.

C. Definitions set forth in Section General Conditions of the Contract for Construction or in other Contract Documents are applicable to the Bidding Documents.

D. Addenda are written or graphic instruments issued by the Engineer prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.

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

F. 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.

G. 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.

H. 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.

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

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

1.02 BIDS

A. Submit Section 00 41 13 "Bid Form" along with required enclosures in a sealed envelope, with the Bidder's name, license number, and project name written on the outside; place this sealed envelope in another envelope and deliver to the Owner at the address specified in Section 00 11 13 "Advertisement for Bids". Please note that, two complete bid packages must be submitted - if only one bid package is submitted the bid will be rejected. Both bid packages may be in one sealed envelope. Please note that Digital submissions are not allowed.

B. Bids will be received until the date and time specified at which time they will be publicly opened and read.

C. Fill in and sign the bid form correctly. Bids that show any omission, alterations of form, additions not called for, conditional Bids, or any irregularities of any kind may be rejected. If erasures are necessary and appear on the forms, each such erasure must be initialed by the person signing the proposal.

D. Bids delivered by a carrier (e.g. Fed-Ex) are to be sent to the address noted in the Advertisement for Bids It is each bidder's responsibility to ensure bids are received on time. Lee County Officials nor REI Engineers are responsible for lost bids or bids not delivered on time. Bidders may hand-deliver bids and attend the bid opening.

E. Bids that are non-responsive or fail to follow the Instructions to Bidders may be rejected.

F. No bid may be withdrawn after receipt of Bids for a period of 60 days.

1.03 ACCEPTANCE OF BID (AWARD)

A. It is the intention of the Owner to award a contract for work under this project to the lowest responsible Bidder.

B. The Owner reserves the right to reject any or all Bids, to accept any bid submitted, to waive any formalities, and to negotiate with the low Bidder or Bidders any changes considered necessary or desirable. The Owner reserves the right to reject any Bid when such rejection is in the interest of the Owner to reject the bid of the bidder who has previously failed to perform or to complete on time Contracts of a similar nature; and to reject the bid of a bidder who is not, in the opinion of the Engineer, in a position to perform the Contract.

C. The Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the low Bidder on the basis of the sum of the Base Bid and Alternates accepted. Alternates may be accepted at any time during the bid holding period.

1.04 PRE-BID MEETING

A. Refer to the advertisement for bids for the date, time and location of the Pre-Bid Meeting.

B. A Pre-Bid Meeting will be held for purposes of considering questions posed by Bidders. All interpretations and corrections to Contract Documents deriving from this meeting will be documented via Addendum.

C. If the Bidder does not attend the Pre-Bid Meeting, it is the Bidder's responsibility to obtain the Pre-Bid Meeting Minutes and all Addenda.

1.05 DISQUALIFICATION

A. The Owner reserves the right to disqualify Bids, before or after opening, upon evidence of collusion with intent to defraud or commit other illegal practices upon the part of the Bidder.

1.06 CONTRACTOR'S LICENSE

A. All Bidders must have proper licenses for contractors as required by State Law. The Bidder's license number shall be listed on the bid form and on the outside of the inner sealed envelope in which the bid is submitted.

1.07 CONFLICT OF INTEREST

A. Bidders must disclose in writing with their bid the name of any owner, officer, director, or agent who is also an employee of the Owner.

B. Bidders must disclose in writing with their bid the name of any employee of the Owner who owns, directly or indirectly, an interest of 5 percent or more in the Bidder’s firm or any of its branches or subsidiaries.

C. By submitting a bid, the Bidder certifies that there is no relationship between the Bidder and any person or entity which is, or gives the appearance of, a conflict of interest related to this project.

1.08 NON-DISCRIMINATION

A. The Bidder shall not discriminate against any individuals and will take proactive measures to assure compliance with all Federal and State requirements concerning fair employment, employment of people with disabilities, and concerning the treatment of all employees without regard to discrimination based upon age, race, color, religion, sex, national origin, or disability.

1.09 INTERPRETATION OF DRAWINGS AND SPECIFICATIONS

A. Examine Drawings and Specifications and all Addenda or other revisions thereto and thoroughly familiarize himself with the detailed requirements thereof prior to submitting a proposal.

B. Should a Bidder find discrepancies or ambiguities in, or omissions from the Specifications and Drawings bound herein, or should be in doubt as to their meaning, notify the Engineer in writing immediately. Engineer will issue an interpretation in the form of an addendum. This addendum will be forwarded to all Bidders of record.

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

D. Act promptly and allow sufficient time for a reply to be provided before the date established for submission of Bids.

E. Acknowledge receipt of all addenda on the Bid Form.

F. No oral interpretations will be made to any Bidder as to the meaning or intent of the Contract Documents or be effective to modify any of the provisions of the Contract Documents.

1.10 SUBSTITUTIONS

A. References are made to certain specific products solely to denote the quality standard of the desired product and are not intended to restrict Bidders to a specific brand, make, manufacturer, or name. These products have been noted to assist in establishing material types and acceptable products. Equivalent products will be considered acceptable provided that the approval of the specific product has been given in writing by the Engineer.

B. Written requests for substitution of equivalent products from prime bidders will be considered if received by the Engineer 14 calendar days prior to the bid opening.

C. Identify the product or the fabrication or installation method to be replaced in each request. Include related specification sections and drawing number.

D. Provide complete documentation on both the product specified and the proposed substitution including the following information as appropriate:
   1. Comparison of specified and proposed substitute product data, fabrication drawings, and installation procedures.
   2. Samples where applicable or requested.
   3. Detailed comparison of significant qualities of the proposed substitution with those of the work specified.
   4. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Contractors that will become necessary to accommodate the proposed substitution.

E. Certification by the Bidder or manufacturer that the substitution proposed is equal to or better in every respect to that required by the Contract Documents, and that it will perform equal or superior to product specified in the application indicated. The Bidder waives any right to additional payment or time, which may subsequently become necessary because of the failure of the substitution to perform adequately.

F. Engineer's Action: The Engineer may request additional information or documentation necessary for evaluation of the request. The Engineer will notify the Bidders of acceptance of the proposed substitution by means of an addendum to the bid documents. If the proposed substitute is accepted through an addendum use the product specified by name. Engineer's Substitution Approval during bidding and subsequent addendums does not void the Bidder's responsibility to submit the required shop drawings and comply with the other contract documents and requirements.

1.11 SITE INVESTIGATION

A. Examine the site to determine the extent of work involved, size of work, etc., and the conditions under which the work must be staged and performed. Examine the grounds and buildings, utilities and roads and ascertain by any reasonable means conditions that will in any manner affect its work. Ask the Engineer for any additional information that he deems necessary to be fully informed as to exactly what is to be expected prior to submitting a proposal. The drawings have been prepared on the basis of surveys and inspections of the site and physical conditions at the site. This, however, does not relieve the Bidder of the necessity for fully informing itself as to the existing physical conditions. Secure field measurements for quantities upon which proposal is based. Carefully examine the existing conditions as compared to the Contract Documents.

B. The submission of a bid will be construed as evidence that such an investigation has been made, and no subsequent allowance will be made in this connection on behalf of the bidder for any error or negligence.

C. Upon arrival at the Project Site, immediately proceed to the main entrance/office and advise the administrative personnel of its presence and purpose. Sign the visitor's log, giving his name, his company and the time and date of the visit.

D. Inspection of the work areas shall occur between the hours of 8:00 AM and 5:00 PM. No inspections will be conducted on Saturdays, Sundays, or holidays.

1.12 BID SECURITY

A. Bid bond, deposit of cash or a certified check drawn on a bank or trust company insured by the FDIC in an amount equal to not less than 5% of the gross amount of the bid is required.

1.13 PERFORMANCE BOND AND LABOR AND MATERIALS PAYMENT BOND

A. A Performance Bond and Payment Bond in the amount of the contract is required. Include the cost of providing Performance Bond and Payment Bond in the Base Bid.

1.14 PRIME CONTRACT

A. Perform all work under a single prime contract.

1.15 PERMITS, FEES AND TAXES

A. Secure and pay the costs of licenses, permits and fees for inspections required by City, County and/or State authorities; Social Security and other applicable Local, State and Federal Government taxes, and sales taxes. Include such costs in its bid.

1.16 SUBCONTRACTORS

A. List names of subcontractors on the Bid Form. Identify work by the general, subcontractor or not applicable for each trade; utilize blank lines to list trades not provided in the table. Do not list suppliers. All blanks must be filled in. Failure to do so may result in bid being declared non-responsive. If there is more than one subcontractor per trade identified below, list all. If no subcontractors are to be utilized, indicate by signing at the appropriate place at the bottom of the table.

B. A Bidder whose bid is accepted shall not substitute any person as subcontractor in the place of the subcontractor listed in the original bid, except if the listed subcontractor's bid is later determined by the successful Bidder to be nonresponsible or nonresponsive or the listed subcontractor refuses to enter into a contract for the complete performance of the bid work, or with the approval of the awarding authority, the Owner, for good cause shown by the successful Bidder.

C. The terms, conditions, and requirements of each contract between the successful Bidder and a subcontractor performing work under a subdivision or branch of work listed in this subsection shall incorporate by reference the terms, conditions, and requirements of the contract between the contractor and the Owner.

1.17 FORM OF AGREEMENT

A. The form of agreement between the Owner and Contractor to be entered into shall be the sample contained in Section 00 52 13 - Standard Form of Agreement.

1.18 ROOF SYSTEM MANUFACTURER

A. The roof system manufacturer shall complete the form contained in Section 00 62 33 - Roof Manufacturer's Acknowledgment. Bidder shall enclose the signed Roof Manufacturer's Acknowledgment form from the manufacturer it intends to use on the project with their bid.

1.19 BIDDER QUALIFICATIONS

A. Bids will be accepted from Bidders who are regularly engaged in, and licensed to perform, the work they are bidding, which represents a significant portion of their total volume and who perform this work with workers regularly employed on their direct payrolls. Before a bid is considered for award, the Bidder may be requested by the Engineer to submit a statement of facts in detail as to its previous experience in performing similar or comparable work and of its business and technical organization and financial resources available to be used in contemplated work. The Bidder may also be required to submit a statement of facts in detail on his proposed subcontractors as to their previous experience and past performance in performing similar work or comparable work.

B. Bidders shall be required to submit with their bid the following:
   1. Evidence that submitting firm can provide a response time from their closest office to the Project site. Response time is subject to Owner verification.

END OF SECTION

SECTION 00 41 13

BID FORM

To: Ryan Faulk
Lee County Government of North Carolina
115 Chatham Street, Suite 301, Sanford, North Carolina 27330

Project: Lee County Buggy Building Roof Replacement
REI Project No. R25RAL-051
Lee County Bid No. 4263-01-27

Date: _____

Bidder: _____

Address: _____

Phone: _____ Email: _____

North Carolina License No.: _____ Classification: _____ Limitation: _____

PART 1 - GENERAL

1.1 SUMMARY

A. The undersigned, as bidder, hereby declares that the only person or persons interested in this bid as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this bid or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud. The Bidder further declares that he has examined the site of the work and the contract documents relative thereto dated 09-28-2026 as prepared by REI Engineers, Inc., and has read all special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed. The Bidder proposes and agrees if this bid is accepted to contract with the Owner in the form of contract specified, to furnish all necessary materials, equipment, machinery, tools apparatus, means of transportation and labor necessary to complete the construction of the project with a definite understanding that no money will be allowed for extra work except as set forth in the General Conditions and the Contract Documents.

1.2 BASE BID:

_____ $ _____
(Words) (Figures)

1.3 ALTERNATES

A. The undersigned agrees to perform alternative work as described in Section 01 23 00 - Alternates for the sums stated below resulting in additions to or deductions from the base bid stated above. Additions and deductions shall include any modifications of the Work or additional work that may be reasonably included as part of the alternative work. All alternative work is to be completed within the same timeframe as the base bid work. All alternates must be filled out. A zero or no entry after any alternate indicates no cost change to include that Alternate. Alternates may be accepted at any time during the bid holding period. The undersigned acknowledges that failure to complete all information requested in this section may result in the rejection of this bid.

1. Alternate No. 1: Sector C, relocate all disconnect boxes, uni-struts and conduits to disconnect stands.

    a. Words: _____

    b. Figures: $_____. _____

    c. Select One_____Add or _____Deduct

1.4 ALLOWANCES:

A. Include in the Base Bid the Contingency Allowance specified in Section 01 21 00 "Allowances" of the Project Manual.

1. $15,000.00

B. Include in the Base Bid the Quantity Allowances specified in Section 01 21 00 "Allowances" of the Project Manual.

1. Replace 250 BF of Deteriorated Wood Plank Deck. Refer to Section 06 15 00 "Wood Decking".
2. Replace 250 BF of Deteriorated Wood Blocking. Refer to Section 06 10 00 "Rough Carpentry"
3. Replace 96 SF of Deteriorated Plywood. Refer to Section 06 10 00 "Rough Carpentry"

1.5 UNIT PRICES:

A. Unit prices quoted and accepted shall apply throughout the life of the contract, except as otherwise specifically noted. Unit prices shall be applied, as appropriate, to compute the total value of changes in the scope of the work all in accordance with the contract documents. Refer to Section 01 22 00 "Unit Prices".

1. Replace Deteriorated Wood Plank Deck. Refer to Section 06 15 00 "Wood Decking".

    a. Cost: $_____ per BF

2. Replace Deteriorated Wood Blocking. Refer to Section 06 10 00 "Rough Carpentry"

    a. Cost: $_____ per BF

3. Replace Deteriorated Plywood. Refer to Section 06 10 00 "Rough Carpentry"

a. Cost: $_____ per SF

1.6 MANUFACTURERS:

A. Base bid shall utilize roofing materials manufactured by _____. Only one manufacturer shall be listed. Provide Section 00 62 33 "Roof Manufacturer's Acknowledgment" signed by manufacturer listed above and enclose with bid.

1.7 BID HOLDING TIME AND ACCEPTANCE:

A. The undersigned hereby agrees that this bid may not be revoked or withdrawn after the time set for the opening of bids but shall remain open during the bid holding period as specified in Section 00 21 13 "Instructions to Bidders".

1.8 SCHEDULE OF COMPLETION:

A. The undersigned understands that time is of the essence and agrees to the Contract Time and liquidated damages as indicated in General Conditions of the Contract for Construction and Supplementary Conditions apply to this Work. The undersigned hereby agrees to commence work on this project within thirty (30) days following receipt of an Executed Agreement between Owner and Contractor. Date of commencement will be established in a Notice to Proceed issued to Contractor. Complete work under the Base Bid within 75 calendar days from the date of commencement.

B. Applicable liquidated damages shall be stated in the Section 00 73 00 "Supplementary Conditions".

1.9 ADDENDUM:

A. Addendum received and used in computing bid:

1. Addendum No. 1: _____
2. Addendum No. 2: _____
3. Addendum No. 3: _____
4. Addendum No. 4: _____

1.10 SUBCONTRACTORS:

A. If subcontractors are to be utilized, the Bidder shall fill out all blanks on the list below. All subcontractors shall be listed. The Bidder shall identify work by the general, subcontractor or not applicable for each trade; utilize parenthesis (_) to list trades not provided. Do not list suppliers. All blanks must be filled in. Failure to do so may result in bid being declared non-responsive. If there is more than one subcontractor per trade identified below, list all. If no subcontractors are to be utilized, indicate by signing at the appropriate place at the bottom of the table.

Trade	Company	License #
General (_____)		
Mechanical		
Electrical		
Plumbing		
Masonry		
Concrete		
Waste Disposal		
Utility Locate		
Milling		
Trucking		
Striping		
Other ((_____)		
Other (_____)		
Other (_____)		
We do not plan to use subcontract forces		

1.11 ENCLOSURES:

A. Provide the following enclosures with submitted bid:

1. Bid Bond
2. Section 00 62 33 "Roof Manufacturer's Acknowledgment" for Manufacturer listed above.
3. Response/Travel Time Documentation

Respectfully submitted this _____ day of _____, _____.

Company: _____

Printed Name: _____

Signature: _____

Title: _____

_____(State)

County of _____

I, _____, a Notary Public for _____ County, _____ (State), do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this _____ day of _____, 20____.

_____ (OFFICIAL SEAL)
Notary Public

My commission expires _____, 20___.

END OF SECTION

SECTION 00 43 13

BID BOND FORM

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Utilize AIA Document A310 - 2010 Bid Bond Form. Document is incorporated by reference; Contractor is responsible to obtain a properly licensed form for use on the project.

1.02 RELATED DOCUMENTS

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

1.03 BID SECURITY

A. In lieu thereof, each bid may be accompanied by a deposit of cash, or a certified check drawn on a bank or trust company insured by the Federal Deposit Insurance Corporation (FDIC) in an amount equal to not less than 5% of the gross amount of the bid.

B. Bid Bond shall be signed by the Bidder and notarized.

C. If the successful Bidder fails to execute the contract within 10 days after award, the above deposit will be retained by the Owner on the bid bond executed on liquidated damages.

END OF SECTION

SECTION 00 52 13

STANDARD FORM OF AGREEMENT

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Owner's Standard Form of Agreement (sample)

1.02 RELATED DOCUMENTS

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

Contract Agreement Between _____and Lee County Government

THIS AGREEMENT, made the _____day of ___month_____202___by and between _____. (hereinafter referred to as the "Contractor") and Lee County Government (hereinafter referred to as the "Owner") agree as follows:

1. Scope of Work: The Contractor shall furnish and deliver all of the materials, and perform all of the work in the manner and form as provided by the enumerated plans, specifications and documents, which are attached hereto and made a part thereof as if fully contained herein: advertisement, Instructions to Bidders, General Conditions, Supplementary General Conditions, specifications, accepted proposals, contract, performance bond, payment bond, power of attorney, worker's compensation, public liability, Exhibit A – Lee County Dispute Resolution Policy, any and all addendums, and all drawings.

2. The Contractor shall commence work to be performed under this agreement on a date to be specified in a written order of the Owner and shall fully complete all work hereunder within _____consecutive calendar days from said date. For each day in excess thereof, liquidated damages shall be as stated in as $1,000.00 per day. The Contractor, as one of the considerations for the awarding of this contract, shall furnish to the Owner a construction schedule setting forth the project broken down by various divisions of the work and by the calendar days, as described in the General Conditions.

sample

3. The Owner agrees to pay to the Contractor for the faithful performance of this agreement, subject to additions and deductions as provided in the specifications or proposal, in lawful money in the amount of $_____.

4. Alternates. Alternates, if any, included in the Contract Sum are as follows:

Item	Price
Alt. #1	
a. _____	$_____
b. _____	
Alt. #2	$_____
a. _____	
b. _____	

5. Allowances. Allowances, if any, included in the Contract Sum are as follows:

Item	Price

6. Unit Prices. Unit prices, if any, are as follows:

Item	Units and limitations	Price per Unit

7. Liquidated Damages. Liquidated damages will be $1,000.00 per day, after the date specified for substantial completion.

8. Binding Dispute Resolution. For any claim subject to, but not resolved by mediation, the method of binding dispute resolution shall be litigation in a court of competent jurisdiction.

9. The Owner's Representative is:

   Lisa Minter, County Manager
   408 Summit Drive
   Sanford, NC 27330
   lminter@leecountync.gov

   The Contractor's Representative is:

   _____
   _____
   _____

sample

10. It if further mutually agreed between the Parties that if at any time after the execution of this agreement and the surety bonds hereto attached for its faithful performance, the Owner shall deem the surety or sureties upon such bonds to be unsatisfactory, or if, for any reason, such bonds cease to be adequate to cover the performance of the Work, the Contractor, at its own expense, within five (5) days after the receipt of notice from the Owner so to do, furnish an additional bond or bonds in such form and amount, and with such surety or sureties as shall be satisfactory to the Owner. In such event, no further payment to the Contractor shall be deemed to be due under this agreement, until such new or additional security for the faithful performance of the Work shall be furnished in a manner and form satisfactory to the Owner.

11. Compliance with E-Verify requirements: The Contractor and any of its subcontractors must comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes, if applicable, which requires certain employers to verify the work authorization of each newly hired employee through the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies.

12. Divestment from companies that boycott Israel: Contractor certifies that (a) it is not identified on the Israel Boycott List or any other list created by the NC State Treasurer pursuant to N.C.G.S. 147—86.80 et al and (b) it will not take any action causing it to appear on any such list during the term of the contract agreement.

13. Iran Divestment Act Certification. The Contractor certifies that the Contractor is not listed on the Final Divestment List created by the State Treasurer pursuant to N.C.G.S. 147-86.58 (the Final Divestment List) and the Contractor will not utilize any subcontractors performing work under this Contract which is listed on the Final Divestment List. The Final Divestment List can be found on the State Treasurer's website at the address and should be updated every 180 days.

14. Non-Discrimination in Employment. The Contractor will not discriminate again any employee or applicant for employment because of age, sex, race, creed, national origin or disability. In the event Contractor is determined by the final order of an appropriate agency or court to be in violation of this provision or any non-discrimination provision of federal, state or local law, this Contract may be suspended or terminated, in whole or in part by the County. In addition, the Contractor may be declared ineligible for further contracts with the County.

15. Drug-Free Workplace. During the performance of this agreement, the Contractor agrees to (i) provide a drug-free workplace for its employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees of the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in its workplace and specifying the actions that will be taken against employees for violations of such prohibitions, (iii) state in all solicitations or advertisements for employees placed by or on its behalf that it maintains a drug-free workplace; (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over $10,000.00 so that the provisions will be binding upon each subcontractor or vendor.

sample

16. Non-Appropriation Clause. Contractor acknowledges that Lee County is a governmental entity, and the contract validity is based upon the availability of public funding under the authority of its statutory mandate. In the event that public funds are unavailable and not appropriated for the performance of Lee County's obligations under this contract, then this contract shall automatically expire without penalty to Lee County thirty (30) days after written notice to Contractor of the unavailability and non-appropriation of public funds. It is expressly agreed that Lee County shall not activate this non-appropriation provision for its convenience or to circumvent the requirements of this contract, but only as an emergency fiscal measure during a substantial fiscal crisis, which affects generally its governmental operations. In the event of a change in the Lee County's statutory authority, mandate and mandated functions, by state and federal legislative or regulatory action, which adversely affects Lee County's authority to continue its obligations under this contract, then this contract shall automatically

terminate without penalty to Lee County upon written notice to Contractor of such limitation or change in Lee County's legal authority.

17. No Pledge of Taxing Authority. No deficiency judgment may be rendered against Lee County or any agency of Lee County in any action for breach of a contractual obligation under this contract. The taxing power of the Lee County is not pledged directly or indirectly to secure any monies due under this contract.

18. Gov Ops. Contractor acknowledges that by contracting with Lee County and receiving public funds, they may be subject to potential examination, evaluation and investigation, including access to buildings and documents and compelled testimony, by the Joint Legislative Commission on Governmental Operations under Section 27.10(b) of North Carolina S.L. 2023-134. Contractor acknowledges that Lee County has no control over the Commission and its activities.

19. This agreement becomes effective upon the last signature of both parties.

sample

IN WITNESS WHEREOF, the Parties hereto have executed this agreement on this the _____ day of _____, _____.

_____CONTRACTOR / FIRM

By: _____

Title: _____ Witness: _____

Date: _____

LEE COUNTY GOVERNMENT

By: _____

Title: _____ Witness: _____

Date: _____

sample

Initial Here: ____

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

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ARTICLE 1. DEFINITIONS

1.1 Agreement- the Contract Agreement, these general conditions, and any supplementary conditions, advertisement, instructions to bidders, specifications, drawings, bonds, addendums, drawings.

1.2 Beneficial Occupancy- the point at which the Project can be occupied by the Owner for its intended purpose, upon achievement of Substantial Completion, as defined in 1.35.

1.3 Change Order- a written order to the Contractor signed by the Owner and the Designer authorizing an addition, deletion, or revision in the Work and/or an adjustment in the Contract Price and/or the Contract Time issued after execution of the Contract Agreement.

1.4 Completion Date- those dates identified as completion dates in the Contract Construction Schedule or elsewhere in the Contract Documents.

1.5 Contract Agreement- the document executed by the Contractor and Owner to formally memorialize their consent to the terms of the Agreement.

1.6 Construction Change Directive- a written order to the Contractor signed by the Owner and the Designer directing an addition, deletion, or revision in the Work after execution of the Contract Agreement, in circumstances when the parties have been unable to agree on an adjustment to the Contract Price or the Contract Time, but the Owner requests that the Contractor proceed with said Work subject to adjustment of the Contract Price and/or Contract Time under the procedures described herein.

1.7 Construction Manager- the person or firm designated as the Construction Manger in the Contract Documents, or their authorized representatives. The Construction Manager, as referred to herein, will be referred to hereinafter as if each were of the singular number, masculine gender.

1.8 Contract Construction Schedule- that schedule identified as the Contract Construction Schedule.

1.9 Contract Documents- all of the documents that make up the Agreement, plus the Drawings and Specifications that describe the scope of the work, plus allowable modifications to the contract documents.

1.10 Contract Price- the total monies payable to the Contractor under the Contract Documents.

1.11 Contract Time- the number of calendar days stated in, or computed from, the Contract Documents for the completion of the Work, or any portion thereof. Time of completion is of the essence. The time used and referred to on the Project will be that time which is observed in Sanford, Lee County, North Carolina, being Eastern Daylight Savings Time, Eastern Standard Time, or other as designated by the Designer.

1.12 Contractor- the Contractor shall be that party identified in the Agreement.

1.13 Days- unless otherwise indicated, the term "days" shall mean consecutive calendar days.

1.14 Daylight Hours- the hours or portion of hours between sunrise and sunset local time.

1.15 Designer- the person or firm designated as the Designer, in the Contract Documents, or their authorized representatives. The Designer(s), as referred to herein, shall mean architect, landscape architect, and/or engineer. They will be referred to hereinafter as if each were of the singular number, masculine gender.

1.16 Drawings- the drawings are the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location, and dimensions of the Work, and generally including plans, elevations, sections, details, schedules and diagrams. A list of the Drawings is contained in the Supplemental General Conditions.

1.17 Field Order- a written order issued by the Designer which clarifies or interprets the Contract Documents or orders minor changes in the Work in accordance with the Contract Documents.

1.18 Final Completion- the point at which the Contractor has, as determined by the Designer, completed the Work, with the exception of guaranty and warranty obligations, and becomes entitled, upon the recommendation of the Designer and determination by the Owner, to final payment.

1.19 Liquidated Damages- An amount, as stated in the Contract Agreement, reasonably estimated in advance to cover the consequential damages associated with the Owner's economic loss in not being able to use the Project for its intended purposes at the end of the contract's completion date as amended by change order, if any, by reason of failure of the contractor(s) to complete the work within the time specified.

1.20 Modification- a written amendment to the Contract Documents signed by the Owner and the Contractor and identified therein as such, or a Change Order, or a Construction Change Directive, or a Field Order.

1.21 Notice to Proceed- see Article 11.3.

1.22 Owner- the Owner is the person designated as such in the Agreement.

1.23 Owner's Authorized Representative- a person or persons, employed by the Owner and designated from time to time by written notice to the Contractor to administer the Contract Documents, and to observe and monitor the Work on behalf of the Owner with authority and responsibility as herein specified.

1.24 Notice- the term "notice" or "written notice" as used herein shall mean and include all written notices, demands, instructions and claims, approvals and disapprovals furnished by the Owner or the Designer to obtain compliance with the requirements of the Contract Documents as well as all written notices, demands, instructions and claims furnished by the Contractor as required by the Contract Documents. Where notice is required under the terms of the Contract Documents, written notice shall always be required, and oral or "constructive" notice shall be insufficient and ineffective as notice unless specifically allowed by the Supplementary Conditions or a Modification to the Agreement. Written notice shall be deemed to have been duly served on the date that it is delivered in person to the individual or to a member of the firm, to an officer of the corporation for whom it is intended, to an authorized representative of such individual, firm, or corporation, or on the date that it is mailed by registered or certified mail, return receipt requested, addressed to the last business address of such individual, firm, or corporation. Written notice may also be given by facsimile transmission, provided that proof of delivery is obtained. In the case of delivery in person, such delivery shall not be effective unless and until a written and signed receipt showing the date and time of deliver is obtained.

1.25 Project- the total construction of which the Work performed under the Contract Documents may be the whole or a part.

1.26 Project Expediter- As used herein, is an entity stated in the Contract Documents, designated to effectively facilitate scheduling and coordination of Work activities. For the purpose of a single prime contract, the single prime contractor is designated as the Project Expediter.

1.27 Project Manager- that person designated by the Contractor who shall be in general charge of the Work and its performance.

1.28 Request for Information- a written communication from the Contractor to the Designer for any interpretation of, or information needed, required, or desired under the Contract Documents. The Owner reserves the right to determine the reasonable format and contents required for a Request for Information. In any Request for Information, the Contractor shall state a reasonable date by which a response is necessary in order to avoid delay in progress of the Work and shall make such request sufficiently in advance of such date as to avoid any such delay.

1.29 Request for Payment- document approved by Owner, which is to be used by the Contractor in requesting progress payments and which is to include a Schedule of Values as required by the Contract Documents and an affidavit of the Contractor that progress

payments theretofore received from the Owner on account of the Work have been applied by the Contractor to discharge in full all the Contractor's obligations incurred in connection with Work covered by all prior applications for payment.

1.30 Superintendent- that person designated by the Contractor who has day-to-day responsibility for the prosecution of the Work and the obtaining of proper materials and equipment, and adequate labor.

1.31 Schedule of Values- any breakdown of the Contract Price which may be required by the Contract Documents and designated as such.

1.32 Specifications- the portion of the Contract Documents consisting generally of the written requirements for materials, equipment, construction systems, standards, and workmanship for the Work and performance of related services.

1.33 Subcontractor- a person, firm, or corporation who has entered into a direct contract with the Contractor to perform any of the Work of the Project.

1.34 Submittal- shop drawings, product data, samples, and other documents required by the Contract Documents to be submitted by the Contractor to the Designer.

1.35 Substantial Completion- the point at which the Work, and Work by other Contractors on or in connection with the Project, as determined by the Designer, is sufficiently complete in accordance with the Contract Documents that it can be beneficially occupied by the Owner, and the Work can be utilized by the Owner for its intended use, and all necessary permits and permissions for Beneficial Occupancy and utilization having been obtained by the Contractor. All operations and maintenance manuals, Owner training, and as-built drawings must be submitted prior to Substantial Completion being achieved.

1.36 Work- the construction and services required by the Contract Documents, including all labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor’s obligations.

ARTICLE 2. CORRELATION, INTERPRETATION AND INTENT OF CONTRACT DOCUMENTS

2.1 It is the intent of the Specifications and Drawings and other Contract Documents to describe a complete Project in accordance with the Contract Documents.

2.2 The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If the Contractor finds a conflict, error or discrepancy in the Contract Documents, the Contractor shall notify the Designer in writing before proceeding with the Work affected thereby. In resolving such conflicts, errors and discrepancies, the Contract Documents shall be given preference in the following order: Contract Agreement, Modifications, Addenda, Supplemental Conditions, General Conditions, Specifications, and Drawings. Figure dimensions on Drawings shall govern over scale dimensions, and detailed Drawings shall govern over

general Drawings. Any Work that may reasonably be inferred from the Contract Documents as being required to produce the intended result shall be supplied whether or not it is specifically called for. Work, materials or equipment described in words which, so applied, have a well known technical trade meaning shall be deemed to refer to such meaning and to incorporate any recognized standards which are a part of such meaning.

2.3 Miscellaneous items, accessories and work which are not specifically mentioned, but which are essential to produce a complete and properly operating installation, or useable structure or plant providing the indicated function shall be furnished and installed without change in the Contract Price. Such miscellaneous items and accessories shall be of the same quality standards, including material, style, finish, strength, class, weight and other applicable characteristics, as specified for the major component of which the miscellaneous item or accessory is an essential part, and shall be approved by the Designer before installation. This requirement is not intended to include major components not covered by or inferable from the Contract Documents.

2.4 The Work of all trades under the Contract Documents shall be coordinated by the Contractor in such a manner as to obtain the best workmanship possible for the entire Project and all components of the Work shall be installed or erected in accordance with the best practices of the particular trade.

2.5 The Contractor shall fully complete the Work and shall be responsible for all of the Work under the Contract Documents to which the Construction Agreement applies. If the Contractor is prevented from doing so by any limitation of the Contract Documents, the Contractor shall immediately give notice thereof to the Designer and the Owner in writing before proceeding with the construction in the area where the problem or limitation exists.

2.6 Standard specifications or manufacturers' literature, when referenced, shall be of the latest revision or printing unless otherwise stated and is intended to establish the minimum requirements acceptable.

2.7 For those materials specified without the use of brand names, the Contractor shall submit within thirty (30) days after his receiving the Contract Agreement for signatures, any product that meets the express requirements of the Specifications.

Such Submittal shall include manufacturer's data, test reports, performance data and certifications, samples, erection details, and other applicable information as required to permit determination by the Designer whether such proposed products are suitable. The Designer shall be the sole judge as to the suitability of any proposed product. The burden of proof of quality rests with the Contractor.

2.8 The Contractor is required to examine and read the complete set of Contract Documents for information concerning the Work, because some of the Work for which the Contractor will be responsible may be indicated on or in documentation applying primarily to the Work of one or more other separate prime contractors. No allowance will be made for the Contractor’s failure to become familiar with the complete set of project documents.

2.9 Contractor's requests for clarification or information shall clearly define the cause(s) of Contractor's request and, as appropriate, shall include Contractor's interpretation and Contractor's proposed solution.

ARTICLE 3. FAMILIARITY WITH WORK, CONDITIONS AND LAWS

3.1 The Contractor has investigated prior to bidding and is satisfied with all conditions affecting the Work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electrical power, roads and uncertainties of weather, or similar physical conditions at the Project site, and the character of equipment and facilities needed prior to and during prosecution of the Work. The Contractor is satisfied as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from inspection of the Project site, including all exploratory work done by the Owner, as well as from information presented by the Contract Documents, or any other information made available to the Contractor prior to receipt of bids. Any failure by the Contractor to become acquainted with the available information shall not relieve the Contractor from the responsibility for estimating properly the difficulty or cost of successfully performing the Work.

3.2 The Contractor shall be entitled to rely upon all information furnished to the Contractor in writing by the Owner with respect to the Project site and to make all inferences from it that would reasonably be made by a contractor having knowledge and experience with similar work; however, the Contractor shall not be entitled to infer from Owner-supplied information any fact or condition which would not be inferred by a contractor having knowledge and experience with similar work and, if the Owner-supplied information is inadequate or insufficient in any respect, the Contractor shall be required to obtain independently such other information as a knowledgeable and experienced contractor would prudently obtain in order to evaluate any such condition.

3.3 The Contractor specifically acknowledges familiarity with all Federal, State, and local laws, ordinances, rules and regulations which may in any manner affect those engaged or employed in the Work, or the materials or equipment in or about the Work, or in any way affect the conduct of the Work and agrees that the Contractor and the Contractor's employees, subcontractors, and suppliers will, at all times, comply with same. If the Contractor shall discover any provisions in the Contract Documents which are contrary to or inconsistent with any such law, ordinance, rule, or regulation, the Contractor shall immediately give notice thereof to the Designer and the Owner in writing, identifying any items of Work affected, and the Contractor shall not proceed until the Contractor has received written direction from the Designer with respect to these items. If the Contractor performs contrary to or inconsistently with any such law, ordinance, rule, or regulation without giving such notice, the Contractor shall bear all costs which are a consequence of such performance.

3.4 At times selected by the Designer after execution by the Contractor of the Construction Agreement, a pre-construction conference shall be scheduled and conducted for the benefit of the Project.

ARTICLE 4. BONDS

4.1 A performance bond in the full amount of the Contract Price shall be required of the Contractor to guarantee the faithful performance of the Work in compliance with the Contract Documents, in such form as may be required by law and approved by the Owner. The bond shall be dated the same date as the Construction Agreement and must be accompanied by a current copy of the power of attorney for the attorney-in-fact executing such bond on behalf of a surety company licensed to do business in the state of North Carolina.

4.2 A payment bond in the full amount of the Contract Price shall be required of the Contractor to guarantee the payment of all labor and material costs or claims in connection with compliance with the Contract. The payment bond shall be in such form as may be required by law and approved by the Owner. Said bond shall be dated and executed in the same manner as the performance bond in paragraph 4.1.

ARTICLE 5. INSURANCE AND INDEMNITY

5.1 CONTRACTOR PROVIDED INSURANCE

The Contractor shall, without limiting its obligations or liabilities, procure, pay for and maintain such insurance as is required by law and as is required by this Agreement to protect the Contractor and the Owner from claims for damages for bodily injury, including death, and from claims for property damage which may arise from the Contractor's or its representatives', consultants', Subcontractors', agents', or employees' operations under this Agreement. Such insurance shall be of the kinds and have limits of liability and coverages not less than the minimum limits hereinafter specified or required by law, whichever is greater. The Owner makes no representation as to the adequacy or sufficiency of such coverages. The following requirements shall in no way be construed to limit or eliminate the liability of the Contractor, which arises from performance of Work under the Agreement. The Contractor is strictly responsible for any losses, claims, and costs of any kind which exceed the Contractor's limits of liability, or which may be outside the coverage scope of the policies.

The insurance specified shall be provided by an insurer approved by the Owner authorized to do such business in the State of North Carolina, and on terms approved by the Owner. Insurance companies utilized shall have a minimum rating of A- and Class VII as evaluated by the most current A.M. Best Rating Guide. If the insurer has a Best Rating less than A-and Class VII, the Contractor must receive specific written approval from the Owner prior to proceeding with any Work under the Agreement. All agents and brokers shall hold valid licenses from the State of North Carolina. Before commencing mobilization to the Project site and not later than 7 days after the receipt of the Construction Agreement by the Contractor for signatures, the Contractor shall furnish to the Owner a certificate or certificates of insurance in a form satisfactory to the Owner. Upon request of the Owner, the Contractor shall provide the Owner with certified copies of the insurance policies required by this Article, including without limitation declaration pages, conditions, exclusions and endorsements, and confirmation that each policy premium has been paid for the required term of this Agreement. A copy of the umbrella policy shall be provided to the Lee County Finance Department. Certificates shall be signed by a person authorized by that insurer to bind coverage on its behalf. In the event of any such cancellation, non-renewal, reduction, restriction, or change in any insurance, the Contractor is obligated to replace such

insurance within 7 days without a gap in coverage and file accordingly such notice with the Owner, and other interested parties. Failing immediate receipt of evidence of such replacement of insurance the Owner reserves the right to procure such insurance as the Owner considers desirable and the Contractor shall pay or reimburse the cost of the premium in respect thereof. It is expressly provided, however, that any action or inaction on the part of the Owner in this respect shall in no way change or reduce the Contractor's responsibilities and liabilities under this Agreement. Self-funded, policy fronting, or other non-risk transfer insurance mechanisms are not acceptable without prior written approval of the Owner. Full disclosure of such a program must be made prior to commencing mobilization to the Project site. Failure to make a full disclosure constitutes a material breach of the Agreement, justifying termination for default.

The Contractor shall name the Owner and Designer as additional insureds under all its insurance contracts (except workers' compensation) with respect to and including without limitation liability arising out of activities performed by or on behalf of the Contractor, products and completed operations of the Contractor, and automobiles owned, hired, leased, or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to additional insureds.

For any claims related to this Project, the Contractor's insurance or self-insurance shall be primary and noncontributory with respect to the Owner’s insurance. Any insurance or self-insurance maintained by the Owner shall be excess and noncontributory with respect to the Contractor's insurance.

All policies of insurance shall contain a clause waiving rights of subrogation against the Owner, unless the Owner approves otherwise in writing.

Limits of coverage are not to be amended by deductible clauses of any nature without the express written consent of the Owner. The Contractor shall be solely responsible for any deductible assumptions that may exist in any insurance policies required under this Agreement. In addition, the Contractor shall be responsible and shall not be reimbursed for any losses arising from any risk or exposure not insured as required herein, or not covered as a result of a normal policy extension or that falls within the self insured retention, if Contractor is self insured.

The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

The claim provisions in the Contractor’s insurance policies must specifically state the insurance company or Contractor’s Third Party Administrator, if self insured, has both the right and duty to adjust a claim and provide defense.

The policies shall not contain any provision or definition which would serve to exclude or eliminate from coverage third party claims, including exclusions of claims for bodily or other injury to shareholders, partners, officers, directors, or employees of the insured, the premises owner, real estate manager, or the insured's Subcontractor, or any family relative of such persons.

If the policies contain any warranty stating that coverage is null and void (or words to that effect) if the Contractor does not comply with the most stringent regulations governing the Work, it shall be modified so that coverage shall be afforded in all cases except for the Contractor's willful or intentional noncompliance with applicable government regulations.

Any failure by any person to comply with reporting or other provisions of the policy including breach of warranties, shall not affect coverage provided to the Owner and its representatives, officials, and employees.

The insolvency or bankruptcy of the Insured or of the Insured's estate shall not relieve the insurance companies of their obligations under these policies. Any clauses to the contrary are unacceptable and must be stricken.

Failure to comply with these requirements shall be a material breach of this Agreement justifying termination for default.

5.2 CONTRACTOR PROVIDED WORKER'S COMPENSATION AND EMPLOYER'S LIABILITY INSURANCE

The Contractor and its Subcontractors shall procure and maintain Workers' Compensation Insurance in the amount and type required by the State of North Carolina and federal law for all employees employed under the Agreement who may come within the protection of Workers' Compensation Laws and covering all operations under the Agreement whether performed by the Contractor or by his Subcontractors. In jurisdictions not providing complete Workers' Compensation protection, the Contractor and his Subcontractors shall maintain employers' liability insurance in an amount, form, company, and agency satisfactory to the State of North Carolina and the Owner for the benefit of all employees not protected by Workers' Compensation Laws and covering all operations under the Agreement whether performed by the Contractor or by his Subcontractors.

The Contractor shall pay such assessments as will protect the Contractor and the Owner from claims under the Workers' Compensation laws, workers' or workmen's' compensation disability benefits, and other similar employee benefit acts. The current Experience Modification Factor shall be indicated on the Certificate of Insurance.

Coverage under this section shall be as required by federal and state Workers' Compensation and Occupational Disease Statutes, and shall have minimum limits as follows:

Coverage A:		Statutory, State of North Carolina
Employers' Liability:	Each Accident	$1,000,000
	Disease - Policy Limit	$1,000,000
	Disease - Each Employee	$1,000,000

Such insurance shall include Voluntary Compensation coverage, a Waiver of Subrogation in favor of the Owner as well as other endorsements that may be required by applicable jurisdictions, i.e. United States Longshoremen and Harbor Workers Act and maritime coverage (Jones Act).

5.3 CONTRACTOR PROVIDED AUTOMOBILE LIABILITY INSURANCE

The Contractor shall procure and maintain automobile insurance against liability for bodily injury and property damage as described below, that may arise with respect to the Work being performed under the Agreement, and as will provide protection from claims which may arise out of or result from the Contractor's performance of the Work and the Contractor's other obligations under the Agreement, whether such performance of the Work is by the Contractor, by any representative or Subcontractor, by anyone, both officially and personally, directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

This policy of insurance shall carry the following minimum Limit of Liability:
Combined Single Limit $1,000,000
The policy of insurance shall contain or be endorsed to include the following:

a) owned, hired, and non-owned automobile liability.

b) If the policy contains a warranty stating that coverage is null and void (or words to that effect) if the transporter does not comply with the most stringent regulations governing the Work, it shall be modified so that coverage shall be afforded in all cases except for the transporter's willful or intentional noncompliance with applicable government regulations.

Any failure by any party to comply with reporting or other provisions of the policy including breach of warranties, shall not affect coverage provided to the Owner and its representatives, officials, and employees.

No subcontracting of waste hauling shall be permitted without prior, written approval of the Owner.

5.4 CONTRACTOR PROVIDED GENERAL LIABILITY

This policy must be written on an Occurrence basis, with the following minimum Limits of Liability:

General Aggregate per project	$2,000,000.00
Products/Completed Operations Aggregate	$2,000,000.00
Bodily Injury and Property Damage csl/each occurrence	$1,000,000.00
Personal Injury and Advertising Injury	$2,000,000.00

The policy of insurance shall contain or be endorsed to include the following:

a) Blanket Contractual Liability covering Contractor’s indemnification obligations under this Agreement, in accordance with ISO policy form CG 00 01. Modifications to the standard provision will not be acceptable if they serve to reduce coverage.

b) Premises/Operations Liability.

c) Explosion, collapse, and underground fault.

d) Independent Contractors and Independent Subcontractors coverage.

e) Broad Form Property Damage.

f) Personal Injury

g) Cross Liability/Severability of Interest clause.

h) Employer's Stop-Gap Liability endorsement, if applicable.

i) Amendment of the Pollution Exclusion Endorsement to allow coverage for bodily injury or property damage caused by heat, smoke, or fumes from a hostile fire.

j) Designated General Aggregate Limit Endorsement if required by the Supplemental General Conditions.

5.5 CONTRACTOR PROVIDED PROPERTY INSURANCE

The Contractor shall purchase All Risk Property Insurance on a Completed Value Form in the names of the Owner, Contractor, Subcontractors, and sub-subcontractors as their interests may appear with limits as follows:

a) Full insurance value of the Work, or
b) Amount equal to the Contract Price for the Work, whichever is higher.

The Contractor is responsible for all physical damage to owned or rented machinery, tools, equipment, forms, and other items owned, rented or used by the Contractor and/or Subcontractor(s) in the performance of the Work. The insurance coverage evidencing such shall include a waiver of subrogation in favor of the Owner.

5.6 CLAIMS

The Contractor shall notify the Owner within 24 hours of any claims or alleged claims received by the Contractor covered by any of the policies of insurance required in this Agreement. The Contractor shall provide a written copy of the claim or alleged claim to the Owner within 3 days of the Contractor's receipt of the claim or alleged claim. If a claim is settled to the satisfaction of the claimant, the Contractor shall submit a copy of the claimant's release to the Owner.

If a claim or alleged claim is rejected by the Contractor and/or its insurance company, the Contractor shall immediately report this fact to the Owner.

Should 30 days elapse after the claim or alleged claim has been received by the Contractor, and the Contractor is not able to report a settlement or rejection of the claim, it shall report to the Owner the steps being taken with respect to the claim.

Without limiting the foregoing, the Contractor shall notify in writing the County risk manager of any paid or incurred claims which may impair annual aggregate or general liability.

5.7 CONTRACTOR'S DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any deductibles or self-insured retentions must be declared to and approved by the Owner. At the option of the Owner, either: the insurer shall reduce to a maximum of $250,000 or eliminate such deductibles or self-insured retentions with respect to the Owner, or the Contractor shall provide evidence of collateral provided to insurers or procure a bond guaranteeing payment of losses and related investigations, claim administration, and defense expenses within the deductible or self-insured retention amount. Any self-insured retention or deductible amount on the policy shall not reduce the amount of collectible limits or liability.

5.8 CONTRACTOR'S SUBCONTRACTORS

The Contractor shall include all Subcontractors as Insureds under its policies, or shall furnish separate certificates, policies, and endorsements for each Subcontractor the Contractor intends to use. If a Subcontractor does not take out insurance in his own name and the Contractor wishes to provide insurance protection for such Subcontractor and such Subcontractor's employees, the Contractor shall either (a) procure appropriate policies in the name of the Subcontractor, or (b) cause a rider or riders to be attached to the Contractor's policies which shall identify the Subcontractor thereby covered; provided, however, in the case of the latter option, such a rider need not be attached to the Contractor's workers' compensation policy if such policy by its terms is sufficiently broad to cover the employees of all Subcontractors performing Work under the Contract Documents. Except as otherwise approved by the Owner in writing, Limits of Liability and coverage scope must be at a minimum as stringent as required of the Contractor by the Contract Documents. All Work performed for the Contractor by any Subcontractor shall be pursuant to an appropriate agreement between the Contractor and the Subcontractor which shall contain provisions that waive all rights the contracting parties may have against one another for damages caused by fire or other perils covered by insurance as provided herein. Insurance monies received from any loss shall be divided as the respective interest of the parties affected shall appear.

5.9 INDEMNIFICATION

To the fullest extent provided by law, the Contractor shall indemnify and hold harmless the owner, the designer and the agents, consultants and employees of the owner and designer, from and against all claims, damages, losses and expense, including, but not limited to, attorneys' fees, arising out of or resulting from the performance or failure of performance of the work, provided that any such claim, damage, loss or expense 1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom, and 2) is caused in whole or in part by any

negligent act or omission of the Contractor, the Contractor's subcontractor, or the agents of either the Contractor or the Contractor's subcontractor. Such obligation shall not be construed to negate, abridge or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this article.

The provisions of this paragraph shall survive the termination or cancellation or completion of this Agreement.

ARTICLE 6. OTHER DOCUMENTS AND SUBMITTALS

The Contractor acknowledges that the processing of shop drawings and other submittals is directly impacted by the clarity, completeness, and accuracy of said documents and that it is the Contractor's responsibility to (i) review and coordinate each submittal with all other related or affected Work and (ii) approve each submittal before submitting same to the Designer for approval.

No substitutions and no deviations from any requirement of the Contract Documents shall be deemed allowed unless the Contractor has specifically informed the Designer and the Owner in writing of such deviations at the time of submittal and the Designer and the Owner have given written and specific approval to the substitutions or deviations. In proposing a deviation or substitution the Contractor warrants to the Owner, notwithstanding any review, allowance or approval by the Designer or the Owner that the deviation or substitution is at least equal to or better in quality and for the purpose intended, and that Contractor shall not by reason of any such review, allowance or approval be relieved from any obligation or responsibility contained in the Contract Documents.

ARTICLE 7. CONTRACTOR

7.1 The Contractor shall supervise and direct the Work efficiently and with the Contractor's best skill and attention. Except as may be set forth specifically in the Contract Documents, the Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction, and for safety precautions and programs in connection with the Work. The Contractor shall be responsible to see that the finished Work complies accurately with the Contract Documents.

7.2 The Contractor shall appoint a Project Manager and shall keep on the Project at all times during its progress a competent Resident Superintendent and necessary assistants who shall not be replaced without prior written approval by the Owner except under extraordinary circumstances, in which event immediate written notice shall be given to the Designer and the Owner. The Project Manager and the Resident Superintendent may be the same person or different persons. At any time, the Owner, in its sole and absolute discretion, may require the Contractor to replace the Project Manager or Resident Superintendent with an experienced and competent person or persons upon seven (7) days written notice from the Owner to the Contractor. Such replacement shall be at the Contractor's expense and at no cost to the Owner.

Both the Project Manager and the Resident Superintendent shall have authority to act on behalf of the Contractor, and instructions, directions or notices given to either of them shall be as binding as if given to the Contractor.

7.3 The Contractor shall provide sufficient competent and suitably qualified personnel, equipment, and supplies to lay out the Work and perform construction as required by the Contract Documents. The Contractor will at all times maintain good discipline and order at the site, and will comply with all applicable OSHA standards.

Any person employed by the Contractor, any Subcontractor, or any sub-subcontractor who, in the opinion of the Designer or the Owner, does not perform his Work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Owner or Designer, be removed forthwith by the Contractor, Subcontractor, or sub-subcontractor employing such person without cost to the Owner, and shall not be employed again in any portion of the Work without the written approval of the Owner or Designer.

Should the Contractor fail to remove such person or persons or fail to furnish suitable and sufficient personnel for the proper prosecution of the Work within three (3) days after written order, the Owner may withhold further payment by written notice until compliance with such order.

7.4 If, in the opinion of the Designer or the Owner, any Subcontractor on the Project is incompetent or otherwise unsatisfactory, he shall be replaced by the Contractor with no increase in the Contract Price if and when directed by the Designer or the Owner in writing.

7.5 The Contractor shall furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools appliances, fuel, light, heat, and all other facilities and incidentals necessary for the execution, maintenance, initial operation, and completion of the Work, other than those specifically excluded by the Contract Documents and to be furnished by the Owner or others. When use or storage of hazardous materials or equipment or methods of more than ordinary risk are necessary in accomplishing the Work, the Contractor shall give the Owner and Designer reasonable advance notice.

All equipment which is proposed to be used in the Work shall be of sufficient size and in such mechanical condition as to meet the requirements of the Work and produce a satisfactory quality of work. Equipment used on any portion of the Work shall be such that no injury to previously completed Work, adjacent property, or existing facilities shall result from its use.

When the methods and equipment to be used by the Contractor accomplishing the Work are not prescribed in the Contract Documents, the Contractor shall be free to use any methods or equipment that will accomplish the Work in conformity with the requirements of the Contract Documents.

When the Contract Documents specify the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Designer. If the Contractor desires to use a method or type of equipment other than specified in the Contract Documents, the Contractor may request authority from the Designer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of

the reasons for desiring to make the change. If approval is given, it shall be on the condition that the Contractor shall be fully responsible for producing Work in conformity with the requirements of the Contract Documents. If, after trial use of the substituted methods or equipment, the Designer determines that the Work produced does not meet the requirements of the Contract Documents, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining Work with the specified methods and equipment at no additional cost to the Owner. The Contractor shall remove any deficient Work and replace it with Work of specified quality, or take such other corrective action as the Designer may direct. No change in the Contract Price or in Contract Time shall be made as a result of authorizing a change in methods or equipment under this paragraph.

7.6 All materials and equipment shall be new, except as otherwise provided in the Contract Documents. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or approved, such materials shall be delivered to the Project site in their original packages or containers with seals unbroken and labels intact.

Materials shall be so stored as to assure the preservation of their quantity, quality and fitness for the Work. Stored materials, even though approved before storage, may again be inspected by the Designer or Owner prior to their use in the Work and shall meet the requirements of the Contract Documents at the time they are incorporated into the Work. Stored materials shall be located so as to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the Designer and the Owner. Materials to be stored at the Project or on the Owner's property shall not create an obstruction to the Owner's or other contractor's reasonable activities. Private property shall not be used for storage purposes without written permission of the owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the Owner a copy of the property owner's permission. All storage sites on private or the Owner's property shall be restored to their original condition by the Contractor at his entire expense, except as otherwise agreed to (in writing) by the owner or lessee of the property.

7.7 All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator, or processor, except as otherwise provided in the Contract Documents.

7.8 The Contractor will be fully responsible for all acts and omissions of his Subcontractors and of persons directly or indirectly employed by them and of persons for whose acts any of them may be liable to the same extent that the Contractor is responsible for the acts and omissions of the Contractor’s own employees. Nothing in the Contract Documents shall create any contractual relationship between any Subcontractor or supplier and the Owner or the Designer, or any obligation on the part of the Owner or the Designer to pay or see to the payment of any money due any such Subcontractor or material furnisher except as may otherwise be required by law. The Owner or the Designer may furnish to any Subcontractor or supplier, to the extent practicable, evidence of amounts paid to the Contractor on account of specific Work done.

7.9 The divisions and sections of the Specifications and the identifications of any Drawings shall not control the Contractor in dividing the Work among Subcontractors.

7.10 The Contractor agrees to bind specifically every Subcontractor to the terms and conditions of the Contract Documents for the benefit of the Owner and to furnish written evidence thereof to the Designer and the Owner.

7.11 The Contractor shall attend job progress conferences and all other meetings or conferences as directed by the Designer. The Contractor shall be represented at these job progress conferences by a representative having the authority of the Project Manager and by such other representatives as the Designer may direct. Job progress conferences shall be open to Subcontractors, suppliers and any others who may contribute beneficially toward maintaining required job progress, and such personnel shall be encouraged by the Contractor to attend. It shall be the principal purpose of job progress conferences to effect coordination, cooperation and assistance in every practical way toward the end of maintaining progress of the Project on schedule and to complete the Work and the Project by the specified Completion Dates. The Contractor shall be prepared to assess progress of the Work as required in the Contract Documents and to recommend remedial measures for correction of progress as may be appropriate. The Designer shall preside as chairman and arrange for minutes to be taken and circulated.

In the event that the prosecution of the Work is discontinued for any reason, the Contractor shall notify the Designer and the Owner at least forty-eight (48) hours in advance of resuming operations.

Should the terms of the Contract Documents require completion of one or more portions of the Work for the Beneficial Occupancy of the Owner prior to completion of the entire Work, the Contractor shall complete such portion(s) of the Work on or before the date specified. Such completion shall include the obtaining of all government or other permits, permission, and/or approvals necessary to occupancy. The Contractor shall independently estimate the difficulties involved in arranging the Work to permit such Beneficial Occupancy and shall not claim any additional compensation or time extension by reason of any delay or increased cost due to completing such portion(s) of the Work. The Owner's possession and use of such portion(s) of the Work shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents. The Owner shall be responsible for the security, maintenance, utilities, and insurance of all portions of the Work completed and beneficially occupied by the Owner.

7.12 The Contractor shall pay all license fees and royalties, and assume all costs incident to the use of any invention, design process, or device which is the subject of patent rights or copyrights held by others, except for inventions, design processes, or devices specified by the Designer in the Contract Documents. The Contractor shall indemnify and hold harmless the Owner, the Designer, and anyone directly employed by either of them, from and against all claims, damages, losses and expenses, including attorney's fees and costs of defense, arising out of any infringement or alleged infringement of such rights during or after completion of the Work, and shall defend all such claims in connection with any actual or alleged infringement of such rights.

7.13 The Contractor shall secure and pay for all permits, including without limitation construction permits and licenses, and will pay all governmental charges and inspection fees necessary for the prosecution of the Work.

7.14 The Contractor shall give all notices and comply with all laws, ordinances, rules, and regulations applicable to the Work and shall protect and indemnify the Owner and the Owner's officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or by the Contractor's employees, Subcontractors, sub-subcontractors

7.15 The Contractor shall be responsible for the entire site of the Project and for its reasonable and necessary protection and security, as required by laws or ordinances governing such conditions, or by custom or sound construction practices, and shall share such responsibilities as may be agreed upon among them, or in the absence of such agreement, as may be directed by the Contract Documents, Owner, or Designer. The Contractor shall be responsible for any damage to the Owner's property, or that of others, by the Contractor or the Contractor's employees, Subcontractors, sub-subcontractors, or their employees or agents, and shall make good such damages. The Contractor shall be responsible for and pay for any such claims against the Owner.

7.16 The Contractor shall protect all landscaping designated to remain in the vicinity of the operations and barricade all walks, roads, and areas as necessary to keep the public away from the construction.

7.17 The Contractor shall provide cover and/or protect all portions of the Work and provide all materials necessary to protect the Work whether performed by the Contractor or any of the Subcontractors or sub-subcontractors. Any Work damaged through the lack of proper protection, or from any other cause, including theft of materials from the work site, shall be repaired or replaced without extra cost to the Owner or extension to the Contract Time.

The Contractor shall maintain the Work during construction and until the Work is accepted. This maintenance shall constitute continuous and effective effort prosecuted day by day, with adequate equipment and forces so that the Work is maintained in satisfactory condition at all times. All costs of maintenance shall be included in the Contract Price and the Contractor will not be paid an additional amount for such effort. Should the Owner or Designer observe that the Contractor at any time has failed to maintain the Work as provided herein, the Designer may immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. Should the Contractor fail to properly respond to the Designer's notification, the Owner may, at the Contractor's expense, take such action as it may deem appropriate to remedy the defective maintenance, including suspension of the Contractor's Work or any part thereof. Any such expense incurred by the Owner shall be deducted from monies due or to become due the Contractor.

Parking lots, streets, and walks connecting to the Project area shall be protected by the Contractor from deposits of mud, sand, stone, litter, or debris in any form.

Pedestrian traffic areas around the construction limits must be maintained in a clean and safe condition at all times with required barricades and covered walkways. When excavation or other operations outside the Project limits is required, the Contractor shall, immediately following that work, return the area to its original condition.

All catch basins and storm drain lines in the vicinity of the Project site shall be protected at all times from entry of dirt, rubble and other debris. The residue from the cleaning of trucks, wheelbarrows, concrete buggies, etc. must be prevented from entering the drainage system, and if cleaning is done, the residue must be contained and removed from the Project site with other refuse.

7.18 No burning of refuse or debris shall be allowed inside or around the Project during the course of construction without written authority from authorities having jurisdiction and the Owner.

7.19 The Contractor shall provide for and maintain necessary safety measures and safety programs for the protection of all persons involved with the Work. Such measures and programs shall include the requirements of the most current edition of the CAGC Safety and Health Manual [or the AGC Accident Prevention Manual in Construction], or equivalent requirements, and shall fully comply with all Federal, State, and local laws, rules, regulations, and building code requirements relating to the prevention of accidents or injuries to persons on or about the location of the Work.

All trenches, excavations, or other hazards in the vicinity of the Work shall be well barricaded, and properly lighted at night. When Work requires closing of an area normally used by the Owner or the public, the Contractor shall furnish, erect, and maintain temporary barricades, and properly light the area. The Contractor shall comply with any directions and public authorities in this respect.

Any unforeseen hazards, including but not limited to environmental, biological, chemical, physical, geological, natural or man-made, that are discovered by the Contractor or any of its subcontractors, must immediately be disclosed to the Owner in writing within twenty-four hours.

7.20 The Contractor shall designate a responsible officer or employee as safety inspector, whose duties shall include accident prevention on the Project as well as implementation of the Contractor’s safety measures and safety programs on the Project. The name of the safety inspector shall be made known to the Designer and the Owner at the pre-construction conference.

7.21 In emergencies affecting the safety of persons, the Work, or property at the Project site or adjacent thereto, the Contractor is obligated to act in the Contractor’s discretion to prevent threatened damage, injury, or loss. As soon as practicable, the Contractor shall notify the Designer and Owner of such emergency. The Contractor shall give the Designer and the Owner prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused by such emergency. If the Contractor believes that additional work done in an emergency entitles the Contractor to an increase in the Contract Price or an extension of the Contract Time, the Contractor may make a claim therefore as provided in Articles 14 and/or 15.

7.22 The Contractor shall at all times keep the premises free from accumulation of waste materials or rubbish caused by the Work. At least weekly and at the completion of the Work, the Contractor shall remove all waste materials and rubbish from and about the Project. At the completion of the Work, the Contractor shall remove all tools, construction equipment, machinery, and surplus materials. The Contractor shall leave the Work in condition for occupancy by the Owner such that no cleaning or other operations are required. Material cleared

from the Project and deposited on adjacent property shall not be considered as having been disposed of satisfactorily. If the Contractor fails to keep the Project clean of waste materials or

rubbish, fails to satisfactorily clean-up weekly or at the completion of the Work, the Owner may do so and the costs thereof may be deducted from any amounts due the Contractor.

7.23 Utilities, temporary facilities, and signs shall be provided as described in the Contract Documents. Absent a contrary direction in the Supplementary Conditions, the Contractor shall pay all bills for water, electricity, or other public utility service to the Project site.

7.24 The Contractor shall indemnify and hold the Owner, the Designer, the Designer's consultants, and their officers, agents, and employees harmless against all costs, damages, and expenses, including attorney's fees and costs of defense, arising out of claims by any separate contractor or by any Subcontractor, sub-subcontractor, or supplier engaged by or employed by the Contractor or employed by any of the Subcontractors claiming through him, including without limitation damages, losses, and expenses arising out of or relating to any inconvenience, delay, interference, or other action or non-action of the Contractor or the Contractor’s Subcontractors on the Project.

Nothing contained herein or appearing anywhere in the Contract Documents shall obligate or require the Owner to exercise any right or privilege, or to take any action or to refrain from taking any action under any contract it may have with any other prime contractor or party to the Project for the benefit of the Contractor or any Subcontractor, sub-Subcontractor, or supplier claiming through the Contractor.

7.25 Prior to completion of the Work and Final Payment of the Contract Price, excepting only those portions of the Work deemed accepted in accordance with the Contract Documents, the Contractor shall have charge and care of the Work, and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the Work. The Contractor shall as required by the Owner replace, rebuild, repair, restore, and make good all injury or damage to any portion of the Work occasioned by any of the above causes before Final Completion and shall bear the expenses thereof.

7.26 In the event that the Work, or any portion thereof, is suspended at any time pursuant to an order of the Owner, the Contractor shall obey all instructions of the Owner regarding storage of materials, drainage, protection of the Work, and erection of temporary structures during the suspension period.

7.27 If there is a Project Expediter assigned to the Project, that person shall be responsible for the coordination of the Work of itself and any other separate contractors, both as to space and time. The Project Expediter shall coordinate the implementation of the Contract Construction Schedule, all construction activities and close-out of the Project, including but not limited to all testing, inspection, certifications, and approvals required by public agencies. If there is not a Project Expediter, then the Construction Manager will be responsible for these duties.

The Contractor and the Project Expediter shall each be required to notify the Designer and the Owner promptly of any event or condition which could affect the conduct or progress of the Work and shall cooperate fully with all other contractors on the Project site.

7.28 The Owner hereby delegates to the Project Expediter all of its duties to coordinate and to expedite the Work not expressly reserved to the Owner by other provisions of the Contract Documents.

7.29 All Work performed pursuant to the Contract Documents shall conform in all respects to the North Carolina State Building Code and all other state, local, and national codes in effect at the time of and applicable to this Work.

7.30 The Contractor shall provide for and maintain necessary safety measures and safety programs for the protection of all persons at the Project site, and shall comply at all times with the requirements of the most current edition of the CAGC Safety and Health Manual [or the AGC Accident Prevention Manual in Construction], or the equivalent requirements of the Contractor's safety program, and shall fully comply with all Federal, State, and local laws, rules, regulations, and building code requirements so as to prevent accidents or injuries to persons on or about the Project site. The Contractor shall clearly mark or post signs warning of existing hazards, and shall barricade excavations, elevator shafts, stairways, and similar hazards. The Contractor shall protect against damage or injury resulting from falling materials, and shall maintain all protective devices and signs throughout the progress of the Work.

7.31 The Contractor shall adhere to the rules, regulations, and interpretations of the North Carolina Department of Labor's Occupational Safety and Health Standards for the Construction Industry (29 CFR Part 1926 as adopted in 13 NCAC 07F.0201, including 29 CFR Part 1910 General Industry Safety and Health Standards applicable to construction) and N.C. Gen. Stat. §95-126 through 155 (Occupational Safety and Health) as well as all revisions and amendments to such standards or statutes as may occur throughout the performance of the Work.

7.32 Any land disturbing activity performed by the Contractor in connection with the Project shall comply with all erosion control measures set forth in the Contract Documents and any additional measures which may be required in order to ensure that the Project is in full compliance with the Sedimentation Pollution Control Act of 1973, as implemented by Title 15 North Carolina Administrative Code, Chapter 4, Sedimentation Control, Subchapters 4A, 4B and 4C, as amended (15 NCAC 4A, 4B, and 4C), and as may be revised or amended in the future. Upon receipt of notice that a land-disturbing activity is in violation of said Act, the Contractor shall be responsible for ensuring that all steps or actions necessary to bring the Project in compliance with said Act are promptly taken. The Contractor shall be responsible for all penalties assessed pursuant to N.C. Gen. Stat. 113A-64 with respect to its Work, and shall indemnify and hold harmless the Owner from all costs and expenses, including attorney's fees and costs of defense arising out of or related to the enforcement of the Act against any party or person described in this Article.

7.33 Any mechanical or electrical work such as sleeves, inserts, chases, etc. located in the Work of the Contractor for general work shall be built in by that Contractor. On multiple prime projects, the mechanical and electrical contractors shall set all sleeves, inserts, and other devices built into the structure in cooperation and under the supervision of the Contractor for general work. The responsibility for exact location of such items shall be that of the mechanical, plumbing, or electrical prime contractor.

7.34 The Contractor shall be responsible for permanently fixed service facilities and systems in use during progress of the Work and shall strictly adhere to the following procedures:

a) Prior to acceptance of the Work by the Owner, the Contractor shall remove and replace any part of the permanent building systems damaged through use during construction.

b) Temporary filters shall be installed in each of the heating and air conditioning units, return air grilles, and other locations to prevent intrusion of dust, dirt, and debris during construction. Temporary filters shall be removed and replaced with new filters immediately prior to Substantial Completion.

c) Extra effort shall be maintained to keep the building clean and under no circumstances shall air systems be operated if finishing operations are creating dust in excess of what would be considered normal if the building were occupied.

d) When the permanent lighting system is used during construction, lamps shall be replaced and shall be new on the date of Substantial Completion.

ARTICLE 8. OWNER

8.1 The Owner shall issue communications and notices to the Contractor through the Designer to the extent contemplated by the Contract Documents.

8.2 In case of termination of the employment of the Designer, the Owner shall appoint as Designer a qualified person who shall have and assume all rights and duties held by the original Designer.

8.3 The Owner shall have the right to take possession of and use any portion of the Work notwithstanding the fact that the time for completion of such portion of the Work may not have expired, but such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents.

8.4 A waiver on the part of the Owner of any breach of any part of the Contractor shall not be held to be a waiver of any other or subsequent breach.

8.5 The Owner shall pay all permanent acreage fees, governmental impact fees, and meter deposits for permanent utilities.

ARTICLE 9. CONSTRUCTION MANAGER

9.1 The Owner may employ one or more Construction Managers for the purpose of assisting the Owner, Designer, and Contractor in developing and administering budgets and cost controls, in evaluating constructability and value engineering proposals, in establishing and maintaining a critical path method (CPM) schedule, in coordinating and/or expediting the Work with other projects being constructed by the Owner or others adjacent or near the Work, or for such other purposes as the Owner may deem appropriate. From time to time the Owner may identify such

Construction Managers(s) to the Contractor in writing identifying any tasks assigned to such Construction Managers(s).

ARTICLE 10. DESIGNER

10.1 The Designer is charged with the responsibility of interpretation of the Contract Documents. The Designer's decisions relating to aesthetic matters shall be final.

10.2 All Work completed under the Contract Documents shall be subject to review by the Designer. No Work is to be covered without the Designer's review or prior authorization. Any Work so covered without the Designer's review or prior authorization shall be uncovered at the Contractor's expense. The Contractor shall notify the Designer in writing at least twenty-four (24) hours in advance of covering any Work.

10.3 The Designer shall not be responsible for the construction means, methods, techniques, sequences, procedures, or the safety precautions and programs incident thereto, and shall not be responsible for the Contractor's failure to perform the Work in accordance with the Contract Documents, but shall be entitled to enforce any requirements in the Contract Documents specifying particular means, methods, techniques, sequences, or procedures.

10.4 The Designer shall be an Owner's representative during the construction period. The duties, responsibilities and authority of the Designer as the Owner's representative during construction are as set forth in the Contract Documents.

ARTICLE 11. CONTRACT TIME

11.1 Within fourteen (14) days, or within a time set by mutual consent of the Parties, after execution of the Contract Agreement by the parties, the Contractor shall prepare and submit to the Designer and Owner for review and approval a preliminary progress schedule for the Work pursuant to the requirements stated in the Contract Documents.

11.2 Within fourteen (14) days after execution of the Contract Agreement by the parties, or within the time set by mutual consent of the Parties, the Contractor shall submit to the Designer a Submittal Register listing all Submittals the Contractor is required to make or proposes to make under the Contract Documents, the dates on which the Contractor proposes to make such Submittals and the dates by which the Contractor reasonably requires a response from the Designer with respect to each Submittal. The dates submitted shall be incorporated into the Contract Construction Schedule as Completion Dates when they have been approved or modified by the Owner. The Designer shall not be required to review any Submittal from the Contractor until a Submittal Register acceptable to and approved by the Owner has been submitted by the Contractor.

11.3 Not later than thirty (30) days following execution and delivery of the Contract Agreement by Owner to Contractor, or upon a date agreed to by mutual consent of the Parties, the Owner shall deliver to the Contractor a Notice to Proceed. The Notice to Proceed shall state a commencement date on which the Contractor will begin the Work to be performed under the

Agreement. The Contract Time shall be measured from said specified commencement date. The commencement date stated in the Notice to Proceed shall not be earlier than three (3) days after the Notice to Proceed is served on the Contractor.

If, other than by mutual agreement, said specified commencement date is more than thirty (30) days after the date of execution and delivery of the Agreement from Owner to Contractor and the Contractor believes said delay justifies an increase in Contract Price and/or an extension of Contract Time, the Contractor may make a claim therefore as provided in Article 14 and/or Article 15.

No Work shall be done prior to the date specified in the Notice to Proceed.

A final Contract Construction Schedule shall be submitted for approval by the Contractor, Designer, and Owner no later than thirty (30) days after Notice to Proceed. No payments shall be due the Contractor until this schedule is approved by all parties.

11.4 The Contract Construction Schedule is a Contract Document. The Contractor represents that the Contract Construction Schedule has been reviewed in detail, that the Contractor participated in its preparation, that all of the activities which impact, limit, or otherwise affect the time of completion of the Work are shown in the Contract Construction Schedule and that all of the activities of others which impact, limit, or otherwise affect the start, duration, or completion of the Contractor's activities are also shown. The Contractor further represents that the Contractor can and will complete each activity within the time shown for that activity. Time is of the essence with respect to each such activity and Completion Date.

11.5 If the Contractor submits a construction schedule, progress report, or any other document that indicates or otherwise expresses an intention to achieve completion of the Work prior to any Completion Date required by the Contract Documents or prior to expiration of the Contract Time, no liability of the Owner to the Contractor for any failure of the Contractor to so complete the Work shall be created or implied.

11.6 If the Contractor, for reasons beyond the Contractor's control, is delayed in beginning any activity, the Contractor shall, nevertheless, have the same number of days as is shown in the Contract Construction Schedule for the activity, and the affected activity and any succeeding activity that is dependent upon that activity shall be adjusted accordingly; provided that at any time the Owner, by means of a Change Order, may require the Contractor to work overtime, to increase labor forces or to take any necessary or appropriate action to decrease the time required for any activity, and the Contractor shall be entitled to an adjustment in the Contract Price computed in accordance with Article 15 of these General Conditions.

11.7 At any time, the Owner may order the Contractor, on seven (7) days written notice, to begin any activity earlier than the starting date shown on the Contract Construction Schedule.

11.8 Should the Contractor fail to start any activity on the start date shown in the Contract Construction Schedule or as it may have been adjusted, or become delayed, the Contractor shall, without being entitled to any increase in the Contract Price or other compensation, work overtime, increase labor forces or take such other action as may be necessary or appropriate to complete the

activity by the Completion Date shown on the Contract Construction Schedule, or as such Completion Date may have been adjusted.

11.9 The Designer and Owner or his Construction Consultant shall monitor progress of the Work at all times and the Contractor shall cooperate with such monitoring and provide any and all information with respect to the progress of the Work and scheduling as the Owner may reasonably require.

11.10 On a monthly basis, the Contractor shall revise the Contract Construction Schedule, showing any adjustments made by any Change Order, the progress of the Work, and any days gained or days lost with respect to any activity, and shall furnish copies thereof to the Owner and Designer.

11.11 Should any monthly revision of any Contract Construction Schedule show that the Contractor is behind on any activity, the late completion of which could delay Substantial Completion of the Work, the Owner shall be entitled to withhold from the next Progress Payment due the Contractor an amount not exceeding the amount the Owner would be entitled to in Liquidated Damages, should Substantial Completion be delayed by the same number of days that the Contractor is currently behind schedule. If, subsequently, the Contractor's progress, as shown by any succeeding monthly revision to the Contract Construction Schedule, is such that the anticipated delay no longer exists, the Owner shall pay with the Progress Payment next due to the Contractor such amounts as have been withheld in accordance with this paragraph.

11.12 The Owner shall have the right to perform Work, hire and employ labor and craftsmen, rent equipment, subcontract with other parties, or do anything that the Owner deems necessary or appropriate to remedy or cure any delay by the Contractor in the progress of the Work. Such action by the Owner shall not, in any way, affect, void or limit any warranty, guaranty or other responsibility of the Contractor under the Contract Documents. Such action may be taken by the Owner only after three (3) days written notice to the Contractor. All costs incurred by the Owner in taking any such action shall be charged to the Contractor and deducted from any amounts remaining due under the Agreement.

11.13 The Contractor may be entitled to an extension of the Contract Time (but no increase in the Contract Sum) for delays arising from unforeseen causes beyond the control and without the fault or negligence of the Owner, the Contractor or the Contractor’s Subcontractors as follows:

a) Labor disputes and strikes that directly impact the critical path activities of the Contract Construction Schedule;

b) Acts of God, tornado, fire, hurricane, blizzard, earthquake, typhoon, or flood that damage completed Work or stored materials.

c) Acts of the public enemy; acts of the State, Federal, or local government in their sovereign capacities.

d)Abnormal inclement weather.

11.14 On any day that the Contractor considers that the Project is delayed by adverse weather conditions, the Contractor shall identify in writing to the Designer and the Owner the adverse weather conditions affecting each activity, the specific nature of the activity affected, the number of hours lost, and the number of and identity (by responsibility or trade) of workers affected and shall obtain from the Designer written recognition of the delay. The time for performance of this Contract includes an allowance for a number of calendar days which may not be suitable for construction Work by reason of adverse weather. The Contract Time will be extended if the Owner and Designer agree with the adverse weather delay.

11.15 If the Contractor believes that the progress of the Work has been adversely affected by adverse weather recognized by the Designer during a particular month, the Contractor shall submit a written request for extension of time to the Designer. Such a request for time extension of the Contract Time shall be submitted in writing to the Designer, copies to the Owner, within twenty days following the cause for delay. In case of continuing cause for delay, the Contractor shall notify the Designer, with copies to the Owner, within twenty days of the beginning of the delay and only one claim is necessary. The request shall include, but is not limited to, the following information:

a) Detailed description of weather's effect on scheduled activities and its net effect on the critical path of the Project, and

b) Weather records from the official weather station nearest the Project site and records of actual observation as contained in daily reports, correspondence, or other documentation.

11.16 The Contractor specifically recognizes that a delay by the Contractor in achieving any Completion Date can have the effect of delaying the Substantial Completion of the Project, that such delay in Substantial Completion of the Project will necessarily cause damages, losses, and expenses to the Owner, including, but not limited to and by way of illustration only, increased capitalized costs and interests for the Project, increased and extended Project overhead, Designer's and Consultant's fees, increased costs of construction, increased and extended operation costs of other facilities, and inefficiency and loss of productivity, and that such damages, losses, and expenses may not be readily identifiable or ascertainable at the time they are incurred or at any time. Therefore, and in recognition of these factors and the likelihood that actual damages from his delay will not be readily ascertainable, the Contractor agrees to pay to the Owner $1,000.00 one thousand dollars, as Liquidated Damages per Day, for each day by which the failure to meet any Completion Date shown in the Contract Construction Schedule, adjusted in accordance with this Article, delays the Substantial Completion of the Project.

11.17 The Contractor shall not be entitled to any adjustment in the Contract Price or other compensation from the Owner for any delay in the completion of or progress on the Work that is caused by a force majeure condition or is otherwise not caused by the sole and direct act or omission of the Owner and the Owner’s employees or agents.

11.18 The sum for Liquidated Damages is the amount stipulated in the Contract Agreement per day as Liquidated Damages reasonably estimated in advance to cover the losses to be incurred by the Owner by reason of failure of said Contractor(s) to complete the Work within the time specified, such time being of the essence of this Contract Agreement and a material consideration thereof.

ARTICLE 12. CHANGES IN THE WORK

12.1 Without invalidating the Contract Documents, the Owner may, at any time, or from time to time order additions, deletions, or revisions in the Work. Said additions, deletions, or revisions shall be authorized only by written Change Orders, Construction Change Directives or Field Orders. Upon receipt of a Change Order, Construction Change Directive or Field Order, the Contractor shall proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If any change causes an increase or decrease in the Contract Price and/or an extension or shortening of the Contract Time, adjustments shall be made as provided in Article 11 and/or Article 13.

In order to expedite the Work and avoid or minimize delay in the Work that might affect the Contract Price or Contract Time, the Designer may issue a Change Order in the form of a Construction Change Directive which when signed by the Owner and Designer, directs the Contractor to proceed promptly with the Work involved. Any claim for an adjustment in Contract Price or Time, if not defined in the Construction Change Directive, shall be promptly made in writing.

12.2 The Designer may authorize minor changes or alterations in the Work not involving change in the Contract Price or in the Contract Time and not inconsistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order. Such alterations shall not invalidate the Contract Documents nor release the surety. If the Contractor believes that any minor change or alteration authorized by the Designer entitles him to an increase in the Contract Price and/or an extension of Contract Time, he may make a claim therefore as provided in Article 11 and/or Article 13.

12.3 Except in an emergency endangering life or property, no change shall be made by the Contractor except upon prior written Change Order, Directive or Field Order authorizing such Change.

12.4 Increases in the Contract Price and/or extensions of the Contract Time for additional Work performed by the Contractor shall only be in accordance with a written Change Order signed by the Owner and Designer. The Contractor shall not be entitled to additional time or to additional compensation for any Work performed or material supplied which is claimed to have been authorized or settled by an "oral" change, or by a "constructive" or "implied" change, or by a course of conduct, or by any action or non-action by the Owner, Designer, or any other persons, or by any means whatsoever other than by a written Change Order for such Work or material signed by the Owner and the Designer.

12.5 Changes in the Work resulting from emergency shall not invalidate the Contract Documents nor release the surety.

12.6 Neither the Owner nor the Designer shall be responsible for verbal instructions which have not been confirmed in writing, and in no case shall such instructions be interpreted as permitting a departure from the Contract Documents unless such instruction is confirmed in writing and supported by a proper Change Order, Construction Change Directive or Field Order, whether or not the cost is affected.

12.7 The Owner, in its sole discretion, may require that the Contractor notify the Contractor’s sureties of any changes affecting the general scope of the Work or change in the Contract Price, and that the amount of applicable bonds shall be adjusted accordingly. If this requirement is exercised, the Contractor shall furnish proof of such adjustment to the Designer and the Owner.

If this requirement is exercised, the Change Orders shall require written consent of the Contractor's surety. At the time of signing a Change Order, the Contractor shall be required to certify as follows:

> "I certify that all sureties have been notified that my contract has been altered by the amount of this Change Order, and that a copy of the approved Change Order will be mailed to all sureties upon its receipt by me."

If this requirement is exercised, no payment to the Contractor on account of any Change Order shall become due or payable until written evidence of the surety's consent to the Change Order has been furnished to the Designer and to the Owner, and the furnishing of such written consent is a condition precedent to such payment.

12.8 The Contractor shall support all requests for Change Orders with a detailed cost breakdown showing cost of materials, labor, equipment, transportation, other items, Contractor's overhead and profit, and total cost, in accordance with methods defined in this Article, and, if the request seeks an extension of the Contract Time, with a time-related diagram which demonstrates specifically why an increase in construction time is needed.

12.9 When a request for a Change Order involves a Subcontractor, the Contractor shall provide quotation from same on Subcontractor's letterhead. The Subcontractor's quote shall list materials, equipment, and labor separately, and show overhead and profit.

ARTICLE 13. CHANGE OF THE CONTRACT PRICE

13.1 The Contract Price constitutes the total compensation payable to the Contractor for performing all Work under the Contract Documents. All duties, responsibilities, and obligations assigned to or undertaken by the Contractor shall be at his expense without change in the Contract Price. The Contract Price may only be changed by a Change Order.

13.2 Any claim for an adjustment in the Contract Price shall be in writing and written notice of any event, action, or non-action which may become the basis of a claim shall be delivered to the Owner and the Designer within three (3) days of the occurrence, or the beginning of the occurrence, of any such event, action or non-action giving rise to the claim. Such written notice is a condition precedent to the making of a claim, and such notice shall describe the basis of the potential claim with reasonable detail and clarity.

A claim shall be made in writing and shall be delivered to the Designer and the Owner no later than fourteen (14) days after such notice. The claim shall describe in detail the basis for the claim, with specific reference to any provisions of the Contract Documents, by paragraph, drawing number, or other specific identification, and shall state the amount claimed and how it is calculated. If the Contractor, at the time the claim is made, is unable to state the amount claimed with accuracy, the Contractor shall so state and provide the estimated amount and the basis on which the amount is to be calculated. At the earliest date practicable, but in no event more than thirty (30) days after Contractor's notice of claim, the Contractor shall supplement the claim with an accurate statement of the amount claimed and how it has been calculated. The Contractor shall provide, in writing, in support of the claim all such explanations, arguments, data, receipts, expert opinions, or other documents or information as the Contractor deems appropriate to be considered in support of the claim. A claim may properly be rejected by the Owner by reason of the Contractor's failure to submit adequate or accurate documentation or information, except that within seven (7) days after being given notice that the claim has been rejected on this basis, the Contractor may submit additional documentation or information. No claim for a change of the Contract Price shall be considered or granted (except solely at the discretion of the Owner) unless a claim is so made, nor shall the

Contractor be entitled to any increase in the Contract Price unless the Contractor has given notice and made such a written claim within the times required. The Owner shall decide, after obtaining the advice of the Designer, whether an increase in Contract Price is warranted, and the amount of such increase shall be determined. Any change in the Contract Price resulting from any such claim shall be incorporated in a Change Order. Any change in the Contract Price or on a Change Order must be approved by the Board of County Commissioners or the County Manager and any decision by the Board or the Manager will be relayed to the Contractor within seven days after the Board's consideration. Any claim on which the Owner has not provided its decision to the Contractor within the applicable time period shall be deemed denied.

The Owner shall advise the Contractor of its decision with respect to the claim within fourteen (14) days of its receipt, or of the receipt of additional documentation or information if the absence of such has previously been the basis of rejection of the claim; provided, however, that if, in its sole discretion, the Owner deems that review or consideration of any part of the claim or any matter related thereto by its governing Board is necessary or appropriate, it shall so advise the Contractor and shall provide its decision to the Contractor within seven (7) days after such Board consideration, review or action. Any claim on which the Owner has not provided its decision to the Contractor within the applicable time period shall be deemed denied.

If the Contractor is not satisfied with the decision of the Owner, the Contractor may within seven (7) days of receipt of the Owner's decision initiate the mediation process as described in Appendix A to the General Conditions of the Contract for Construction.

13.3 In determining the amount of a Contract Price adjustment, the parties shall apply the following methods, as appropriate:

(A) Change in Work: The Owner and Contractor shall negotiate in good faith and attempt to agree upon the value of any change (extra or decrease) in Work prior to the issuance of a Change Order covering said Work. Such Change Order shall set forth the corresponding adjustment to the Contract Price. In the event the Owner and the Contractor are unable to agree, the Owner shall grant an equitable adjustment in the Contract Price.

(B) Emergency Work: In the event of emergency endangering life or property, the Contractor may be directed by the Designer to proceed on a time and material basis, whereupon the Contractor shall so proceed and keep accurately, in such form as may be required by the Designer, a correct account of costs together with all proper invoices, payrolls, and supporting data therefore.

13.4 Where the Contract Price is to be adjusted, the following limitations shall apply in determining the amount of adjustment:

(A) In the case of extra or emergency work, the Contract Price shall not be increased by more than the reasonable, actual, and documented net cost of the extra or emergency work plus ten percent (10%) of such net cost on Work performed by the Contractor and five percent (5%) thereof on any subcontracted Work for overhead and profit combined.

(B) In the case of a decrease in Work, the Contract Price shall not be decreased by less than the net cost of the deleted Work plus five percent (5%) of such direct net cost for profit and overhead.

The term 'net cost' as used herein shall include, as applicable, and shall be limited to, all direct labor, direct material, direct equipment, labor burden, sales taxes, shipping and handling charges, permits and fees, and insurance and bond premium adjustments, if any, attributable to

the change. All other items of cost shall be considered as overhead and covered by the percentages allowed in sections A and B of this paragraph.

The Contractor shall provide worksheets or tabulations describing the method by which the direct net cost was calculated, and shall provide all data needed to support the calculation of the direct net cost, all in a form acceptable to the Owner.

13.5 Where the Contract Price is to be adjusted by negotiation, the Owner may authorize and designate the Designer to negotiate with the Contractor on behalf of the Owner; provided, however, any agreement reached between the Contractor and Designer shall be subject to approval by the Owner

ARTICLE 14. UNFORESEEN CONDITIONS

14.1 Should the Contractor encounter unforeseen conditions at the Project site materially differing from those shown on the Drawings or indicated in the Specifications or differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Agreement, the Contractor shall immediately, and in no event more than three days later, give notice to the Owner of such conditions before they are disturbed. The Owner and the Designer shall thereupon promptly investigate the conditions and if they find that they materially differ from those shown on the Drawings or indicated in the Specifications, they shall at once make such changes in the Drawings and/or Specifications as they may find necessary. Any increase or decrease in the Contract Price resulting from such changes shall be adjusted in the manner provided herein for adjustments as to extra and/or additional Work and changes. However, neither the Owner nor the Designer shall be liable or responsible for additional work, costs, or changes to the Work that could have been reasonably determined from any reports, surveys, and analyses made available for the Contractor's review or that could have been discovered by the Contractor through the performance of its obligations pursuant to the Contract Documents.

ARTICLE 15. CORRECTION OF WORK BEFORE FINAL PAYMENT

15.1 The Owner has the authority to stop or suspend work, and the Designer has the authority to order Work removed or to order corrections of defective Work or Work not in compliance with the Contract Documents where such action may be necessary to ensure successful completion of the Work.

Any work, materials, fabricated items, or other parts of the Work which have been found by the Designer to be defective or not in accordance with the Contract Documents shall be condemned and shall be removed from the Project by the Contractor, and immediately replaced by new Work in accordance with the Contract Documents at no additional cost to the Owner. Work or property of the Owner or others damaged or destroyed by virtue of such condemned Work shall be made good at the expense of the Contractor.

Correction of condemned Work described above shall be commenced by the Contractor within twenty-four (24) hours after receipt of notice from the Designer and shall make satisfactory progress, as determined by the Designer, until completed. Should contractor fail to proceed with required corrections, the owner may complete the work in accordance with Article 17.

Condemned Work removed shall be the property of the Contractor and shall be removed from the Project by him within ten (10) days after notice to remove it, and if not then removed, thereafter may be disposed of by the Owner without compensation to the Contractor and the cost of such disposal shall be deducted from amounts due or to become due to the Contractor.

Should the cost of correction of the Work and, if applicable, disposal of the condemned Work by the Owner exceed amounts due or to become due the Contractor, then the Contractor and the Contractor's sureties shall be liable for and shall pay to the Owner the amount of such excess.

ARTICLE 16. CORRECTION OF WORK AFTER SUBSTANTIAL COMPLETION; WARRANTIES AND GUARANTIES

16.1 Neither the final certificate, Final Payment, occupation of the premises by the Owner, nor any provision of the Contract Documents, nor any other act or instrument of the Owner or the Designer shall relieve the Contractor from responsibility for negligence, defective material or workmanship, or failure to comply with the Contract Documents.

16.2 The Contractor shall, at the Contractor's sole cost and expense, make all necessary repairs, replacements, and corrections of any nature or description, interior or exterior, structural or non-structural, that shall become necessary by reason of defective workmanship or materials which appear within a period of one (1) year from the date of Substantial Completion; provided, however that notwithstanding the preceding, if any longer guarantee period is specified for any particular materials or workmanship under the Contract Documents, or under any subcontract, or in connection with any manufactured unit which is installed in the Project, or under the laws of the State of North Carolina, the longer guarantee period shall govern.

16.3 If, within any guarantee period, repairs or changes are required in connection with the Work, which are rendered necessary as the result of the use of materials, equipment, or workmanship which are inferior, defective, or not in accordance with the terms of the Contract Documents, the Contractor shall, promptly upon receipt of notice from the Designer and without expense to the Owner:

a) Completely repair or replace the Work so that it conforms to the Contract Documents;

b) Correct all defects therein;

c) Make good all damage which, in the opinion of the Designer, is the result of the use of materials, equipment, or workmanship which are inferior, defective, or not in accordance with the terms of the Contract Documents; and

d) Make good any Work or material, or any equipment or contents disturbed in fulfilling any such guarantee.

If, in fulfilling the requirements of the Contract Documents or of any guarantee embraced therein or required thereby, the Contractor disturbs any work, facility, premises, or construction belonging to the Owner, the Contractor shall restore such disturbed work to a condition satisfactory to the Owner, and shall guarantee such restored work to the same extent as if it were Work under the Contract Documents.

If the Contractor, after notice, fails to proceed promptly to comply with the terms of the guarantee, the Owner may have the defects corrected, and the Contractor and the Contractor's sureties shall be liable for all expenses incurred. "Promptly" is defined as within twenty-four (24) hours for systems necessary to normal operation of the building and within seventy-two (72) hours for all other items. All special guarantees applicable to definite parts of the Work that may be shown in or required by Contract Documents shall be subject to the terms of this paragraph during the first year of the life of such special guarantee. Manufacturer's standard guarantees or warranties which do not comply with the time limit specified herein shall be extended by the Contractor automatically without further action on the part of the Owner or the Designer.

16.4 In and before the expiration of the eleventh calendar month after the date of Substantial Completion, and at the request of the Owner, the Contractor, the Owner and the Designer shall make an inspection of the Work for the purpose of identifying defective workmanship and/or materials. If the Contractor, having been requested to do so by the Owner, fails to participate in such inspection, the Contractor shall be conclusively bound by any decision or ruling by the Designer as to any defective workmanship or material and as to the Contractor's responsibility for its repair or replacement.

ARTICLE 17. OWNER'S RIGHT TO DO WORK

17.1 If, during the progress of the Work or during any period of guarantee, the Contractor fails to prosecute the Work properly or to perform any provision of the Contract Documents, the Owner, after three (3) days written notice to the Contractor from the Designer, or from the Owner after Final Payment, may perform or have performed that portion of the Work and may deduct the cost thereof from any amounts due or to become due the Contractor. Notwithstanding any action by the Owner under this paragraph, all warranties and bonds given or to be given by the Contractor shall remain in effect or shall be given by the Contractor.

17.2 Should the cost of such action by the Owner exceed the amount due or to become due the Contractor, the Contractor and his sureties shall be liable for and shall pay to the Owner the amount of such excess.

ARTICLE 18. PARTIAL PAYMENTS

18.1 Within thirty (30) days after his initial receipt of the Construction Agreement for signatures, or on the date agreed to by mutual consent of both Parties, the Contractor shall submit to the Designer a Schedule of Values. The Schedule of Values shall indicate the value of the Work, including applicable overhead and profit, for each Division and section of the Project Specifications. The Designer and Owner shall be provided with the Contractor's estimate papers, Subcontractor agreements, supplier quotes, or other documents substantiating these values if so requested in writing by the Designer. The Contractor shall provide the requested documentation within seven (7) days after receipt of the Designer's written request. The Schedule of Values shall be subject to approval by the Owner, and if the Owner and the Contractor cannot agree upon the Schedule of Values, the Designer shall prepare it, and the Schedule of Values as prepared by the Designer shall be binding on the Owner and the Contractor. No Request for Payment shall be certified by the Designer until the Designer has issued approval of said Schedule of Values.

18.2 During the initial meeting between Owner, Designer and Contractor, a date will be provided to the Contractor by the Owner which will set forth the date each month a Request for Payment for Work done will be submitted. The Request for Payment for Work done will be provided to the Contractor by the Designer. The Request for Payment will show substantially the value of Work done (including the value of material delivered to the Project or stored by the Contractor at another site, subject to the conditions hereinafter set forth) during the previous calendar month, and shall sum up the financial status of the Work with the following information:

a) Total Contract Price, including any adjustment thereto made pursuant to the Contract Documents.

b) Value of Work completed and materials properly stored to date.

c) Less amount retained.

d) Less previous payments.

e) Current amount due.

f) Balance remaining.

The Contractor, upon request of the Designer, shall substantiate the request with invoices, vouchers, payrolls, or other evidence.

18.3 When payment is requested or made on an account of stored materials, such materials must be stored on the Owner's property at such places and in such a manner as may be designated by the Designer. However, in the sole discretion of the Owner, with permission in writing from the Designer and Owner and under such circumstances as may be determined by the Owner, such materials may be stored in a bonded warehouse. The location and conditions for storage of such materials away from the Owner's property in a bonded warehouse shall be within the sole discretion of the Owner. Requests for Payment on account of stored materials shall be accompanied by paid invoices, bills of sale, warehouse receipts, or other documentary evidence establishing Owner's title to such materials, evidence that the stored materials are insured against loss and damage, and such other documentation as required by the Designer. Responsibility for the quantity, quality, and condition of such stored materials, whether stored on the Owner's property or away from the Owner's property, shall remain with the Contractor regardless of ownership or title. No payment shall be made on account of materials stored in a bonded warehouse unless the Contractor has acquired written permission from the Designer for such storage of materials and has complied with all conditions set forth in such permission regarding such storage of materials in a bonded warehouse.

18.4 Any Request for Payment received by the Designer on or before the date provided to the Contractor at the initial meeting by the Owner of each calendar month shall be certified for payment or returned for re-submission to the Contractor on or before ten days following the submission. The Designer's certification shall be for the amount which was requested or that which the Designer has decided was justly due, and shall state in writing to the Contractor and Owner the reasons for withholding payment of any or all of the amount requested.

18.5 The Designer may fail to certify all or part of any payment requested for any of the following reasons:

a) Defective Work not corrected.

b) Suits, actions, or claims of any character filed against the Contractor, or due to the operations of the Contractor, or information or notice that a suit, action, or claim will be filed or has been made.

c) Information or notice that a Subcontractor or a supplier has not received payment.

d) The balance unpaid of the Contract Price is insufficient to complete the Work in the judgment of the Designer or Owner.

e) Damage to the Owner or another contractor.

f) Inability of the Contractor to meet a Completion Date, including an anticipated failure to meet a Completion Date entitling the Owner to withhold anticipated Liquidated Damages.

g) Failure to furnish Submittal as required by the Contract Documents on a timely basis in accordance with the Submittal Register.

h) Such other reason as to the Designer may appear prudent, proper, or equitable.

When grounds for withholding certification have been corrected, the Designer shall so certify to the Owner and the Owner shall make any payment due with respect to such certification as a part of his next payment after such certification.

18.6 No certificate issued or progress payment made shall constitute an acceptance of the Work or any part thereof.

18.7 The amount certified by the Designer for payment shall be ninety-five percent (95%) of the value of Work completed and materials stored since the Designer's last certification as shown on the Request for Payment, less any amounts not certified in accordance with paragraph 18.4, and this amount shall be paid by the Owner on or before the last business day of the month, but payment shall not be past due until not paid within fifteen (15) days thereafter.

18.8 After certification by the Designer that the Work is fifty percent (50%) complete, based on a determination that the Contractor's gross project invoices, excluding the value of materials stored off-site, equal or exceed fifty percent (50%) of the value of the Contract, (except the value of materials stored on-site shall not exceed twenty percent (20%) of the Contractor's gross project invoices for the purpose of determining whether the Project is fifty percent (50%) complete) and the Contractor has provided to the Owner the written consent of its sureties to the cessation of further percentage retention, the amount certified for payment with respect to subsequent Requests for Payment shall be one hundred percent (100%) of the value of Work completed and materials stored since the Designer's last certification as shown on the Request for Payment, less any amounts not certified; provided, however, that the aggregate of periodic payments shall not exceed ninety-seven and one half percent (97.5%) of the Contract Price. If the Owner determines that the Contractor’s performance under the Contract is unsatisfactory, the Owner may resume withholding percentage retention from each subsequent periodic payment application up to the maximum amount of five percent (5%) of the Contract Price.

ARTICLE 19. FINAL PAYMENT

19.2 Except as set forth in paragraph 19.1, within forty-five days after Substantial Completion of the Project, the remaining unpaid balance of the Contract Price shall be paid to the Contractor, less an amount equal to two and one-half times the value of punch list work or other work remaining to be completed or corrected, as reasonably estimated by the Owner.

19.3 Upon Substantial Completion, the Designer shall prepare and submit to the Contractor a deficiency list identifying all portions of the Work which are known by the Designer at that time to be incomplete or defective. Within thirty (30) days of receipt of this deficiency list, the Contractor shall complete and correct all items on that list along with all other Work required to achieve Final Completion of the Work. At any time prior to completion of the period of warranty, the Designer may submit to the Contractor a supplemental deficiency list, in which case the Contractor shall complete or correct any and all new items identified on the Supplemental deficiency list within the time period stipulated in Article 15.

19.4 Final Payment of any remaining balance of the Contract Price shall not be due to the Contractor until the Contractor achieves Final Completion of the Project.

19.5 The making and acceptance of Final Payment shall constitute a waiver of all claims by the Owner except:

a) Claims arising from unsettled liens or claims against the Contractor.

b) Incomplete or faulty work or material existing at the time of Final Payment for which a deficiency list has been given to the Contractor.

c) Faulty Work or materials appearing after Final Payment.

d) Failure of the Contractor to perform the Work in accordance with the Contract Documents, appearing after Final Payment.

e) As conditioned in the Performance Bond and Payment Bond.

f) Claims made prior to Final Payment which remain unsettled.

19.6 The making and acceptance of Final Payment shall constitute a waiver of all claims by the Contractor except those claims previously made in writing and not finally resolved, except as noted in Paragraph 19.5.

19.7 The Designer shall not authorize Final Payment until all of the Work under the Contract Documents has been certified by the Designer as completed, proper and suitable for occupancy and use, and has been approved by all federal, state and local agencies having jurisdiction.

19.8 The final Request for Payment shall be identified on its face as such and shall be presented by the Contractor to the Designer within thirty (30) days of completion of the Work. Final payment of the retained amount due the Contractor shall be made by the Owner within thirty (30) days after the later of (i) full and Final Completion of all Work required by the Contract Documents, and certification of such Work as provided in 18.4; (ii) submission of the affidavits of other documentation required by Article 20; (iii) submission by the Contractor of a Request for Payment identified on its face as final and including the Designer's certification.

ARTICLE 20. CONTRACTOR, SUBCONTRACTOR AND SUPPLIER AFFIDAVIT

The Final Payment due the Contractor on account of the Contract Documents shall not become due until the Contractor has furnished to the Owner through the Designer: (A) an affidavit by the Contractor signed, sworn, and notarized to the effect that all payments for materials, services, or for any other reason in connection with the Work or performance of the Contract Documents have been satisfied and that no claims or liens exist against the Contractor in connection with the same; (B) affidavits from each Subcontractor and supplier signed, sworn, and notarized to the effect that (i) each such Subcontractor or supplier has been paid in full by the Contractor for all Work performed and/or materials supplied by him in connection with the Project, and (ii) that all payments for materials, services, and for any other reason in connection with the subcontract or supply contract have been satisfied and that no claims or liens exist against the Subcontractor or supplier in connection therewith; and (C) the written consent of the Contractor’s sureties to Final Payment. In the event that the Contractor cannot obtain an affidavit, as required above, from any Subcontractor or supplier, the Contractor shall state in the Contractor’s affidavit that no claims or liens exist against such Subcontractor or supplier to the best of the Contractor's knowledge, and that if any appear afterwards, the Contractor shall save the Owner harmless for all costs and expenses, including attorney’s fees, on account thereof.

ARTICLE 21. ASSIGNMENTS AND SUBCONTRACTS

The Contractor shall not assign any portion of this Agreement nor subcontract the Work in its entirety without the prior written consent of the Owner. Except as may be required under terms

Initial Here: ____

of the bonds required by the Contract Documents, no funds or sums of money due or to become due to the Contractor under the Contract Documents may be assigned.

ARTICLE 22. MEASUREMENTS

Before ordering material or doing Work which is dependent for proper size or installation upon coordination with building conditions, the Contractor shall verify all dimensions and shall be responsible for the correctness of same. No consideration will be given for any claim based on differences between the actual dimensions and those indicated in the Contract Documents. Any discrepancies between the Contract Documents and the existing conditions shall be referred to the Designer for adjustment before any Work affected thereby is begun.

ARTICLE 23. CONTRACTOR AND SUBCONTRACTOR RELATIONSHIPS

23.1 Within thirty (30) days after initial receipt of the Contract Agreement for signatures the Contractor shall submit to the Designer and Owner for acceptance a current list of the names of Subcontractors and such other persons and organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for any and all portions of the Work. The Contractor shall provide this list at this time even if the Contractor was required to submit a list of proposed Subcontractors with the Contractor's bid. The Designer shall promptly reply to the Contractor in writing stating whether or not the Owner or the Designer, after due investigation, has objection to any such proposed person or entity or if it needs additional information to evaluate the persons on the list. Failure of the Designer to reply within ten (10) days after the Contractor has furnished all required information shall constitute notice of no objection.

The Contractor shall not contract with any such proposed person or entity to whom the Owner or the Designer has made reasonable objection. If the Designer or Owner has reasonable objection to any such proposed person or entity, the Contractor shall submit a substitute to whom the Owner and the Designer have no reasonable objection. The Contractor shall make no substitution for any Subcontractor, person, or entity previously allowed without first notifying the Designer and Owner in writing and no substitution may be made if the Owner or Designer makes a reasonable objection to such substitution.

23.2 The Contractor agrees that the terms of the Contract Documents, including all portions thereof, shall apply to all Subcontractors of the Contractor as if they were the Contractor, and that the Subcontractors of the Contractor shall, by means of their subcontracts, be bound by all the terms of the Contract Documents.

23.3 Payments to Subcontractors shall be made in accordance with the provisions of N.C. Gen. Stat. §143-134.1.

ARTICLE 24. USE OF PREMISES

24.1 The Contractor shall confine apparatus, the storage of materials, the operations of workers, and the disposal of material to limits indicated by law, ordinances, permits, and directions of the Designer, if any.

24.2 The Contractor shall not load or permit any part of the Work to be loaded with a weight that will endanger its safety, intended performance, or configuration.

24.3 The Contractor shall enforce all of the Designer's instructions, including but not limited to, those regarding signs, advertisements, fires, and smoking.

ARTICLE 25. DISPUTE RESOLUTION

25.1 The laws of the State of North Carolina shall apply to the interpretation and enforcement of this Agreement. Any and all suits or actions to enforce, interpret, or seek damages with respect to any provision of, or the performance or nonperformance of, this Agreement shall be brought in the General Court of Justice of North Carolina sitting in Lee County, North Carolina, and it is agreed by the parties that no other court shall have venue with respect to such suits or actions. Appendix A shall be a part of the Contract Documents. Prior to initiating an action under this Article, any party to this Agreement shall initiate the mediation process as provided in Appendix A to these General Conditions of the Contract for Construction.

25.2 Any person or firm that expressly or impliedly agrees to perform labor or services or to provide material, supplies, equipment, work, performance or payment bonds, insurance or indemnification for the construction of the Project or the Work shall be deemed a party to this Agreement solely for the purpose of this Article 25. The Contractor, by means of its subcontracts, shall specifically require its Subcontractors to be bound by this Article.

ARTICLE 26. TAXES

26.1 The Contractor has included in the Contract Price and shall pay all taxes assessed by any authority on the Work or the labor and materials used therein. The Contractor shall maintain all tax records during the life of the Project and furnish the Owner with a complete listing of all taxes paid by taxing authority, invoice number, date, amount, etc. in a form acceptable to the Owner. The Contractor is required to maintain a file showing taxes paid on the Project for three (3) years after Final Payment or turn said documents over to the Owner for his files.

26.2 The following is a list of requirements to be followed by the Contractor in maintaining proper records and reporting the North Carolina Sales and Use Tax and Local Sales and Use Tax. The Contractor shall comply fully with the requirements outlined below, in order that the Owner may recover the amount of the tax permitted under the law.

a) It shall be the Contractor's responsibility to furnish the Owner documentary evidence showing the materials used and sales and use tax paid by the Contractor and each of his Subcontractors. Such evidence shall be transmitted to the Owner with each pay request irregardless of whether taxes were paid in that period.

b) The documentary evidence shall consist of a certified statement by the Contractor and each of the Contractor's Subcontractors individually, showing total purchases of materials from each separate vendor and total sales and use taxes paid to each vendor. Certified statements must show the invoice number, or numbers, covered, and inclusive dates of such invoices.

c) Materials used from Contractor's or Subcontractor's warehouse stock shall be shown in a certified statement at warehouse stock prices.

d) The Contractor shall not be required to certify the Subcontractor's statements.

ARTICLE 27. OPERATION OF OWNER'S FACILITIES

The Contractor agrees that all Work done under the Contract Documents shall be carried on in such a manner so as to ensure the regular and continuous operation of the adjoining or adjacent facilities. The Contractor further agrees that the sequence of operations under the Contract Documents shall be scheduled and carried out so as to ensure said regular and continuous operation. The Contractor shall not close any areas of construction until so authorized by the Designer. The Contractor shall control operations to assure the least inconvenience to the public. Under all circumstances, safety shall be the most important consideration.

ARTICLE 29. TERMINATION OR SUSPENSION BY THE OWNER FOR CAUSE

If the Contractor fails to begin or complete the work under the Contract Documents within the time specified, or fails to perform the work with sufficient labor and equipment or with sufficient materials to insure the prompt completion of said work, or shall perform the work unsuitably or shall discontinue the prosecution of the work for three days or if the Contractor shall become insolvent, be declared bankrupt, commit any act of bankruptcy or insolvency, commit any illegal act, or allow any final judgment to stand against the Contractor or its affiliated companies for a period of forty-eight hours, or for any cause whatsoever shall not carry on the work in an acceptable manner, the Owner may give notice in writing to the Contractor and the Contractor's sureties of such delay, neglect or default, specifying the same, and if the Contractor within a period of three (3) days after such notice shall not proceed in good faith and with reasonable speed to correct such delay, neglect, or default in accordance with such notice, the Owner shall have the full power and authority, to the extent permitted by law, without violating the Contract Documents, to take the prosecution of the work out of the hands of the Contractor, to appropriate or use any or all materials and equipment at the project as may be suitable and acceptable, and may enter into an agreement for the completion of the work or pursue such other methods as in the Owner's opinion shall be necessary or appropriate for the completion of the work in an acceptable manner. All costs and charges incurred by the Owner in proceeding in accordance with the preceding sentence, including attorneys' fees, and all costs incurred by the Owner in completing the work shall be deducted from any money due or which becomes due the Contractor. If such costs and expense incurred by the Owner shall be less than the sum which would have been payable under the Contract Documents if it had been completed by the Contractor, then the Contractor shall be entitled to receive the difference, but if such costs and expenses shall exceed the sum which would have been payable under the Contract Documents, the Contractor and the Contractor's surety shall be liable to the Owner for and shall pay to the Owner the amount of such excess.

ARTICLE 29. TERMINATION OR SUSPENSION BY THE OWNER FOR CONVENIENCE

29.1 The Owner may, without cause, and at any time and for any reason terminate Contractor's services and work at Owner's convenience. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue the work and placing of orders for materials, facilities and supplies in connection with the performance of this Agreement.

29.2 Upon such termination, Contractor shall be entitled to payment only as follows: 1) the actual cost of the work completed in conformity with this Agreement; plus, 2) such other costs actually incurred by Contractor as are permitted by the prime contract and approved by Owner; plus, 3) ten percent of the cost of the work referred to Article 29.1 for overhead and profit. There shall be deducted from such sums as provided in this subparagraph the amount of payments made to Contractor prior to the date of the termination of this Agreement. Contractor shall not

be entitled to any claim or claim of lien against Owner for any additional compensation or damages in the event of such termination and payment.

EXHIBIT A
COUNTY OF LEE
RULES FOR IMPLEMENTING MEDIATED SETTLEMENT CONFERENCES
IN NORTH CAROLINA PUBLIC BUILDING CONTRACTS

Table of Rules

1. Initiating Mediated Settlement Conferences
    A. Purpose of mandatory settlement conferences
    B. Initiating the dispute resolution process

2. Selection of Mediator
    A. Selection of certified mediator by agreement of the parties
    B. Nomination and court approval of a non-certified mediator
    C. Appointment of mediator by the County of Lee
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3. The Mediated Settlement Conference
    A. Where conference is to be held
    B. When conference is to be held
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4. Duties of Parties and Other Participants

5. Authority and Duties of Mediators
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    A. By agreement
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7. Mediator Certification

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RULE 1. INITIATING MEDIATED SETTLEMENT CONFERENCES

A. Purpose of Mandatory Settlement Conferences. Pursuant to N.C.G.S. 143-128(f1)and (g), these Rules are promulgated to implement a system of settlement events, which are designated to focus the parties' attention on settlement rather than on claim preparation and to provide a structured opportunity for settlement negotiations to take place. Nothing herein is intended to limit or prevent the

parties from engaging in settlement procedures voluntarily at any time to or during commencement of the dispute resolution process.

B. Initiating the Dispute Resolution Process

1. The County reserves the right to require mediation as a precondition to litigation. The County also encourages all disputes to be resolved through good faith efforts of discussion by submitting a dispute to the Project Designer or Prime Contractor and working with the County before a party requests mediation.

2. Any party to a public building contract governed by Article 8, Chapter 143 of the NC General Statutes and identified in N.C.G.S. 143-128(f1) and (g) and who is a party to a dispute arising out of the building process in which the amount in controversy is at least $15,000 may submit a written request to the County of Lee owner, notice to the Lee County Manager, for mediation of the dispute.

3. Prior to submission of a written request for mediation to the County of Lee owner, the parties requesting mediation:

a. If a prime contractor, must have first submitted its claim to the Project Designer for review. If the dispute is not resolved through the Project Designer's instructions, then the dispute is eligible for mediation in the Formal Dispute Resolution Process and the party may submit their written request for mediation to Lee County.

b. If the party requesting mediation is a subcontractor, it must first have submitted its claim for mediation to the prime contractor with whom it has a contract. If the dispute is not resolved through the Prime Contractor's involvement, then the dispute is eligible for mediation in the Formal Dispute Resolution Process, and the party may submit its written request for mediation to the County of Lee.

c. If the party requesting mediation is the Project Designer, then it must first submit its claim to the County of Lee to resolve. If the dispute is not resolved with the County of Lee's involvement, then the Project Designers' dispute is eligible for mediation in the Formal Dispute Resolution Process, and the Project Designer may submit its written request to the County of Lee for mediation.

RULE 2. SELECTION OF MEDIATOR

A. Selection of Certified Mediator by Agreement of the Parties. The parties may select a certified mediator pursuant to the Rules by agreement within 21 days of requesting mediation. The requesting party shall file with the County of Lee a Notice of Selection of Mediator by Agreement within 10 days of the request; however, any party may file the notice. Such notice shall state the name, address, and telephone number of the selected mediator, state the rate of compensation of the mediator, state that the mediator and opposing counsel have agreed upon the selection and rate of compensation, and state that the mediator is certified pursuant to these Rules.

B. Nomination and the County of Lee Approval of a Non-Certified Mediator. The parties may select a mediator who does not meet the certification requirements of these Rules, but who, in the opinion of the parties and the County of Lee, is otherwise qualified by training or experience to mediate the action.

If the parties select a non-certified mediator, the requesting party shall file with Lee County a Nomination of Non-Certified Mediator within 10 days of the request. Such nomination shall state the name, address and telephone number of the mediator, state the training, experience or other qualifications

of the mediator, state the rate of compensation of the mediator, and state that the mediator and opposing counsel have agreed upon the selection and rate of compensation.

Lee County shall rule on said nomination, shall approve or disapprove of the parties' nomination and shall notify the parties of its decision.

C. Appointment of Mediator by Lee County. If the parties cannot agree upon the selection of a mediator, the party or party's attorney shall notify Lee County and request, on behalf of the parties, that Lee County appoint a mediator. The request for appointment must be filed within 10 days after request to mediate and shall state that the parties have had a full and frank discussion concerning the selection of a mediator and have been unable to agree. The request shall state whether any party prefers a certified attorney mediator, and if so, Lee County shall appoint a certified attorney mediator. If no preference is expressed, Lee County may appoint a certified attorney or a certified non-attorney mediator.

D. Mediator Information Directory. To assist the parties in the selection of a mediator by agreement, the parties are free to utilize the list of certified mediators maintained in any county participating in the Superior Court Mediation Settlement Conference Program.

E. Disqualification of Mediator. Any party may request replacement of the mediator by Lee County for good cause. Nothing in this provision shall preclude mediators from disqualifying themselves.

RULE 3. THE MEDIATED SETTLEMENT CONFERENCE

A. Where Conference is to be Held. Unless all parties and the mediator otherwise agree, the mediated settlement conference shall be held in Lee County. The mediator shall be responsible for reserving a place and making arrangements for the conference and for giving timely notice of the time and location of the conference to all attorneys, unrepresented parties and other persons or entities required to attend.

B. When Conference is to be Held. The deadline for completion of the mediation shall be not less than 30 days nor more than 60 days after naming the mediator.

C. Request to Extend Deadline for Completion. A party, or the mediator, may request Lee County to extend the deadline for completion of the conference. Such request shall state the reasons the extension is sought and shall be served by the moving party upon the other parties and the mediator. If any party does not consent to the request, said party shall promptly communication its objection to Lee County.

Lee County may grant the request by setting a new deadline for completion of the conference.

D. Recesses. The mediator may recess the conference at any time and may set times for reconvening. If the time for reconvening is set before the conference is recessed, no further notification is required for persons present at the conference.

E. The mediated settlement conference shall not be cause for the delay of the building project which is the focus of the dispute.

RULE 4. DUTIES OF PARTIES AND OTHER PARTICIPANTS IN FORMAL DISPUTE RESOLUTION PROCESS

A. Attendance.

1. All parties to the dispute originally presented to the Designer or Prime Contractor for initial resolution must attend the mediation. Failure of a party to a construction contract to attend the mediation may result in Lee County's withholding of monthly payment to that party until such party attends the mediation.

2. Attendance shall constitute physical attendance, not by telephone or other electronic means. Any attendee on behalf of a party must have authority from that party to bind it to any agreement reached as a result of the mediation.

3. Attorneys on behalf of parties may attend the mediation but are not required to do so.

4. Sureties or insurance company representatives are not required to attend the mediation unless any monies paid or to be paid as a result of mediation require their presence or acquiescence. If such agreement or presence is required, then authorized representatives of the surety or insurance company must attend the mediation.

B. Finalizing Agreement. If an agreement is reached in the conference, parties to the agreement shall reduce the terms to writing and sign it along with their counsel.

C. Mediation Fee. The mediation fee shall be decided amongst the parties at the time mediation is requested.

D. Failure to Compensate Mediator. Any party's failure to compensate the mediators in accordance with N.C.G.S. 143-128(f1) and (g) may subject that party to a withholding of said amount of money from the party's monthly payment by Lee County.

RULE 5. AUTHORITY AND DUTIES OF MEDIATORS

A. Authority of Mediator.

1. Control of Conference. The mediator shall at all times be in control of the conference and the procedures to be followed.

2. Private Consultation. The mediator may communicate privately with any participant or counsel prior to and during the conference. The fact that private communications have occurred with a participant shall be disclosed to all other participants at the beginning of the conference.

3. Scheduling the Conference. The mediator shall make a good faith effort to schedule the conference at a time that is convenient with the participants, attorneys and mediator. In the absence of agreement, the mediator shall select the date for the conference.

B. Duties of Mediator.

1. The mediator shall define and describe the following at the beginning of the conference:

a. The process of mediation;

b. The difference between mediation and other forms of conflict resolution;

c. The costs of the mediated settlement conference;

d. That the mediated settlement conference is not a trial, the mediator is not a judge, and the parties retain their legal rights if they do not reach settlement;

e. The circumstances under which the mediator may meet and communicate privately with any of the parties or with any other person;

f. Whether and under what circumstances communications with the mediator will be held in confidence during the conference;

g. The inadmissibility of conduct and statements as provided by N.C.G.S. 7A-38.1;

h. The duties and responsibilities of the mediator and the participants; and

i. That any agreement reached will be reached by mutual consent.

2. Disclosure. The mediator has a duty to be impartial and to advise all participants of any circumstance bearing on possible bias, prejudice or partiality.

3. Declaring Impasse. It is the duty of the mediator to timely determine that an impasse exists and that the conference should end.

4. Reporting Results of Conference. The mediator shall report to Lee County within 10 days of the conference whether or not an agreement was reached by the parties. If an agreement was reached, the report shall state the nature of the agreement. The mediator's report shall inform Lee Count of the absence of any party known to the mediator to have been absent from the mediated settlement conference without permission. Lee County may require the mediator to provide statistical data for evaluation of the mediated settlement conference program.

5. Scheduling and Holding the Conference. It is the duty of the mediator to schedule the conference and conduct it prior to the deadline of completion set by the Rules. Deadlines for completion of the conference shall be strictly observed by the mediator unless said time limit is changed by a written order from Lee County.

RULE 6. COMPENSATION OF THE MEDIATOR

A. By Agreement. When the mediator is stipulated by the parties, compensation shall be as agreed upon by the parties and the mediator provided that the provisions of N.C.G.S. 7A-38.1(k) are observed.

B. By Appointment. When the mediator is appointed by Lee County, the parties shall compensate the mediator for mediation services at the rate in accordance with the rate charged for Superior Court mediation. The parties shall also pay to the mediator a one time per case administrative rate in accordance with the rate charged for Superior Court mediation, which is due upon appointment.

RULE 7. MEDIATOR CERTIFICATION

All mediators certified in the Formal Dispute Resolution Program shall be properly certified in accordance with the rules certifying mediators in Superior Court in North Carolina, except when otherwise allowed by Lee County upon the request of the parties to the mediation. When selecting mediators, the parties may designate a preference for mediators with a background in construction law or public construction contracting. Such requirements, while preferred, are not mandatory under these Rules.

All mediators chosen must either demonstrate they are certified in accordance with the Rules Implementing Scheduled Mediated Settlement Conference in Superior Court or must gain the consent of Lee County to mediate any dispute in accordance with these Rules.

RULE 8. RULE MAKING

These Rules are subject to amendment by Lee County at any time the County deems it appropriate.

RULE 9. TIME LIMITS

Any time limit provided for by these Rules may be waived or extended by the mediator it appoints for good cause shown. If the mediator has not yet been appointed, the Designer of Record shall decide all waivers or extensions of time for good cause shown.

SECTION 00 60 00

PROJECT FORMS

PART 1 GENERAL

1.01 SUMMARY

A. The following documents are hereby incorporated into the Contract Documents by reference:
   1. AIA Documents: Properly licensed forms are available for purchase from the American Institute of Architects at www.aia.org/documents. Utilize current version of each document.
      a. G701 Change Order Form
      b. G702 Application and Certificate for Payment
      c. G703 Continuation Sheet
      d. G704 Certificate of Substantial Completion
      e. G706 Contractor's Affidavit of Payment of Debts and Claims
      f. G706A Contractor's Affidavit of Payment of Release of Liens
      g. G707 Consent of Surety to Final Payment
      h. G710 Architect's Supplemental Instruction Form
      i. G714 Construction Change Directive

B. The following documents are included in the Project Manual:
   1. Section 00 61 13.13 - Performance Bond Form
   2. Section 00 61 13.16 - Payment Bond Form
   3. Section 00 62 33 - Roof Manufacturer's Acknowledgment
   4. Section 00 62 43 - Sexual Offender Registry Check Certification Form
   5. Section 00 62 76.13 - Sales Tax Report
   6. Section 00 63 13 - Request for Interpretation
   7. Section 00 63 25 - Substitution Request Form
   8. Section 00 63 55 - Change Proposal Form
   9. Section 00 65 36 - Contractor's Warranty
   10. Section 00 65 37 - Asbestos Free Warranty

END OF SECTION

SECTION 00 61 13.13

PERFORMANCE BOND FORM

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Utilize Owner's required Performance Bond Form attached to this section.

1.02 RELATED DOCUMENTS

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

1.03 GENERAL

A. A Performance Bond in the amount of the contract is required.

B. Include the cost of providing bonds in the Base Bid.

C. Deliver the required bonds to the Owner no later than three days following the date of execution of the Contract. If the Work is to be commenced prior thereto in response to a letter of intent, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section.

D. Write bonds on the forms contained or referenced herein.

E. Write bond in the amount of the Contract Sum.

F. Date bonds on the date of the Contract.

G. Issue bonds by sureties and execute by an attorney-in-fact, on behalf of the surety, who is authorized to do business in the State of North Carolina.

H. Affix thereto a certified and current copy of the power of attorney.

END OF SECTION

FORM OF PERFORMANCE BOND

Date of Contract: _____

Date of Execution: _____

Name of Principal (Contractor) _____

Name of Surety: _____

Name of Contracting Body: _____

Amount of Bond: _____

Project

KNOW ALL MEN BY THESE PRESENTS, that we, the principal and surety above named, are held and firmly bound unto the above named contracting body, hereinafter called the contracting body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind, ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the contracting body, identified as shown above and hereto attached:

NOW, THEREFORE, if the principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the contracting body, with or without notice to the surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Executed in _____ counterparts.

Witness:

_____

Contractor: (Trade or Corporate Name)

_____

By: _____

(Proprietorship or Partnership)

Attest: (Corporation)

Title: _____
(Owner, Partner, or Corp. Pres. or Vice Pres. only)

By: _____

Title: _____
(Corp. Sec. or Asst. Sec. only)

(Corporate Seal)

_____
(Surety Company)

Witness:

By: _____

_____

Title: _____
(Attorney in Fact)

Countersigned:

_____

(Surety Corporate Seal)

_____
(N.C. Licensed Resident Agent)

_____

_____
Name and Address-Surety Agency

_____

_____
Surety Company Name and N.C. Regional or Branch Office Address

SECTION 00 61 13.16

PAYMENT BOND FORM

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Utilize Owner's required Payment Bond Form attached to this section.

1.02 RELATED DOCUMENTS

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

1.03 GENERAL

A. A Labor and Material Payment Bond in the amount of the contract is required.

B. Include the cost of providing bonds in the Base Bid.

C. Deliver the required bonds to the Owner no later than three days following the date of execution of the Contract. If the Work is to be commenced prior thereto in response to a letter of intent, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section.

D. Write bonds on the forms contained or referenced herein.

E. Write bond in the amount of the Contract Sum.

F. Date bonds on the date of the Contract.

G. Issue bonds by sureties and execute by an attorney-in-fact, on behalf of the surety, who is authorized to do business in the State of North Carolina.

H. Affix thereto a certified and current copy of the power of attorney.

END OF SECTION

FORM OF PAYMENT BOND

Date of Contract: _____

Date of Execution: _____

Name of Principal (Contractor) _____

Name of Surety: _____

Name of Contracting Body: _____

Amount of Bond: _____

Project _____

KNOW ALL MEN BY THESE PRESENTS, that we, the principal and surety above named, are held and firmly bound unto the above named contracting body, hereinafter called the contracting body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the contracting body identified as shown above and hereto attached:

NOW, THEREFORE, if the principal shall promptly make payment to all persons supplying labor/material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Executed in _____ counterparts.

Witness:

_____
Contractor: (Trade or Corporate Name)

_____
(Proprietorship or Partnership)

By: _____

Attest: (Corporation)

Title_____
(Owner, Partner, or Corp. Pres. or Vice Pres. only)

By: _____

Title: _____
(Corp. Sec. or Asst. Sec.. only)

(Corporate Seal)

_____
(Surety Company)

Witness:

By: _____

_____

Title: _____
(Attorney in Fact)

Countersigned:

_____

(Surety Corporate Seal)

_____
(N.C. Licensed Resident Agent)

_____

_____
Name and Address-Surety Agency

_____

_____
Surety Company Name and N.C.
Regional or Branch Office Address

Sheet for Attaching Power of Attorney

Sheet for Attaching Insurance Certificates

SECTION 00 62 33

ROOF MANUFACTURER'S ACKNOWLEDGMENT

PART 1 GENERAL

1.01 FROM:

A. Roofing Contractor: _____

B. Address: _____

C. Phone: _____ Email: _____

1.02 FOR:

A. Owner: Lee County Government of North Carolina

B. Project: Buggy Building Roof Replacement

C. REI Project No.: R25RAL-051

D. Address: 115 Chatham Street Sanford, North Carolina 27330

1.03 ACKNOWLEGEMENT

A. This is to advise the Owner that having thoroughly reviewed the Specifications and Drawings contained within the Project Manual dated 09-28-2026, the above-titled project, we acknowledge that the roof system(s) and flashing system(s) specified are suitable for the issuance of the specified Manufacturer's warranty on this project and have been tested and approved for the wind uplift pressures and specified external fire resistance rating outlined in the project specifications. Having reviewed the project requirements in detail, the Manufacturer will provide a written response of exceptions or exclusions to the Engineer through the contractor as otherwise outlined in the Advertisement or Invitation for Bids, if conflicts exist between the Manufacturer's warranty requirements and the above listed documents. Exceptions not submitted accordingly are subject to rejection. The manufacturer also certifies that the installer is approved, authorized, or licensed by the manufacturer to install the specified roof system and is eligible to provide the specified manufacturer's warranty. The manufacturer will comply with the specified requirements for on-site technical support.

1.04 EXECUTED BY:

A. Manufacturer's Company Name: _____

B. Designated Reviewer Name and Title: _____

C. Signature: _____ Date: _____

END OF SECTION

SECTION 00 62 43

SEXUAL OFFENDER REGISTRY CHECK CERTIFICATION FORM

Check the appropriate item to indicate the type of check:

___ Initial

___ Supplemental

___ Annual

I, _____ (insert name), _____ (insert title) of _____ (insert company name) hereby certify that I have performed all of the required sexual offender registry checks required under this Agreement for all contractual personnel (employees, agents, ownership personnel, or contractors) who may be used to deliver goods or provide services under this Agreement, including the North Carolina Sex Offender and Public Protection Registration Program, the North Carolina Sexually Violent Predator Registration Program, and the National Sex Offender Registry. I further certify that none of the individuals listed below appears on any of the above-named registries and that I will not assign any individual to deliver goods or perform services under this Agreement if said individual appears on any of the sex offender registries. I agree to maintain all records and documents associated with these registry checks, and that I will provide such records and documents to the school system upon request. I specifically acknowledge that the Owner retains the right to audit these records to ensure compliance with this section at any time at the Owner's sole discretion. I acknowledge that I am required to perform these checks and provide this certification form before any work is performed under the Agreement (initial check), any time additional contractual personnel may perform work under the Agreement (supplemental check), and at each anniversary date of the Agreement (annual check).

	Contractor Personnel Names	Job Title
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		

10		

(attach additional page(s) if needed)

I attest that the forgoing information is true and accurate to the best of my knowledge.

_____ (print name)

_____ (signature)

_____ (title)

_____ (date)

SECTION 00 62 76.13

SALES TAX REPORT

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Submit the attached State and County Salex/Use Tax Statement and Certification with each application for payment.

1.02 RELATED DOCUMENTS

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

END OF SECTION

CONTRACTOR'S SALES TAX REPORT

N.C. STATE & LOCAL SALES TAXES PAID

OWNER: Lee County

CONTRACTOR: _____

ADDRESS: _____

PROJECT: Buggy Building Roof Replacement

FOR PERIOD: _____

TO: _____

VENDOR	MATERIAL PURCHASED	ADDRESS	INVOICE NUMBER	DATE	INVOICE AMOUNT	N.C. TAX	COUNTY TAX	NAME OF COUNTY

TOTALS _____

I hereby certify that, during the period stated above, North Carolina sales and use taxes were paid as listed above, with respect to building materials, supplies, fixtures, and equipment that have become a part of, or annexed to, a building or structure erected, altered or repaired for the County of Lee, and that the vendors from whom the property was purchased, the dates and numbers of the invoices covering the purchases, the total amount of the invoices of each vendor, the North Carolina sales and use taxes paid thereon, and the cost of property withdrawn from warehouse stock and North Carolina sales or use taxes paid thereon are as set forth above.

Sworn to and Subscribed before me, this _____ day of _____, 20___.

By: _____

_____ Notary

My Commission expires_____.

Title: _____

SECTION 00 63 13

REQUEST FOR INTERPRETATION

Project:	Buggy Building Roof Replacement	RFI Number:	
From:		Date:	
Engineer:	REI Engineers, Inc.	REI Project No.:	R25RAL-051

Specification Section: Paragraph: Drawing Reference:

Request:

Signed By: _____

Response:

Attachments:

Response From: _____ Date Rec'd: _____ Date Ret'd: _____

Signed By: _____ Date: _____

Copies: __ Owner __ Contractor __ Engineer __ Other

END OF SECTION

SECTION 00 63 25

SUBSTITUTION REQUEST FORM

Project Name: Buggy Building Roof Replacement

Date:

Product and/or Fabrication Method:

Specification Section:

Related Drawings:

Criteria or Specified Product	Included
Product Data	
Fabrication Drawings	
Samples Where Applicable	
List of changes or Modifications Needed to Work as Specified	

Criteria or Specified Product	Included
Product Data	
Fabrication Drawings	
Samples Where Applicable	
List of changes or Modifications Needed to Work as Specified	

The substitution proposed is equal-to or better in every respect to that required by the Contract Documents, and it will perform equal or superior to product specified in the application indicated. The Contractor waives right to additional payment or time, that may subsequently become necessary because of the failure of the substitution to perform adequately.

Signed:

END OF SECTION

SECTION 00 63 55

CHANGE PROPOSAL FORM

PART 1 GENERAL

1.1 CHANGE PROPOSAL FOR:

A. Buggy Building Roof Replacement

B. From (Contractor): _____

C. Change Proposal No. _____

D. Description of Change: _____

_____

1.2 CHANGE BREAKDOWN

A. Materials:

1. Total direct cost of materials: $_____

2. Overhead & profit on A1 (10% max.): $_____

3. Sales tax: $_____

4. Shipping & transportation: $_____

5. Total Materials (A1+A2+A3+A4): $_____

B. Labor:

1. Total manhours: _____ mh at $_____/hr. = $_____

2. Overhead & profit on B1 (15% max.): $_____

3. Total Labor (B1+B2): $_____

C. Equipment Rental:

1. Equipment Rental

2. Overhead & profit on C1 (5% max.): $_____

3. Total Equipment Rental (C1+C2): $_____

D. Subcontractors:

1. Subcontractors: $_____

2. Overhead & profit on D1 (5% max.): $_____

3. Total Subcontractors (D1+D2): $_____

E. Subtotal of Proposal (A5+B4+C3+D3): $_____

F. Bonds (% of Subtotal (E)): $_____

G. Total of Change Proposal (E+F): $_____

H. Time Extension Request: _____ calendar days

I. The Contractor agrees to perform the work outlined in this change proposal for the amount specified above in accordance with the Contract Documents if the work is authorized by the Owner.

1. Contractor Signature and Date: _____

2. Engineer Recommended Approval and Date: _____

3. Owner Approval and Date: _____

END OF SECTION

SECTION 00 65 36

CONTRACTOR'S WARRANTY

PART 1 GENERAL

1.01 WARRANTY

A. Know all men by these presents, that we, _____ (Contractor), having installed roofing system, flashings and sheet metal on the Buggy Building Roof Replacement under contract between Lee County Government of North Carolina and Contractor, warrant to the Owner with respect to said work that for the period of 2 years from date of substantial completion of _____ ___, 20___, the work shall be watertight and free from defects, provided however the following are excluded from this Warranty: 1) defects or failures resulting from abuse by the Owner, 2) damages caused by fire, tornado, hail, hurricane, acts of God, wars, vandalism, riots or civil commotion, and 3) deficits in design involving failure of structural frame, load bearing walls, and/or foundations. We agree that should any leaks occur in the work we will perform emergency repairs within 24 hours' notice and perform permanent repairs promptly in a manner to restore the work to a watertight condition by methods compatible to the system, acceptable under industry standards and general practice, and acceptable to the Manufacturer, all at no expense to the Owner. We further agree that for the period specified below, we will make repairs at no expense to the Owner to defects which may develop in the work in a manner compatible to the system, acceptable under industry standards and general practice as established by the Engineer and acceptable to the Manufacturer.

B. We agree to attend one post construction field inspection no earlier than one month prior to the Contractor's Warranty expiration date and to complete corrective actions requested by Owner, Engineer, or Manufacturer at no additional cost to the Owner.

1.02 EXECUTED BY

A. Contractor: _____

B. Authorized Officer Name and Title: _____

C. Signature: _____ Date: _____

1.03 NOTARIZED BY:

A. I, _____(print name), a Notary Public for _____ County of _____ (State), do hereby certify that _____ (officer listed above) personally appeared before me this day and acknowledged the due execution of the foregoing instrument. Witness my hand and official seal, this ____ day of _____, 20 ___. My commission expires ___ of _____, 20 ___.

B. Signed: _____

(OFFICIAL SEAL)

END OF SECTION

SECTION 00 65 37

ASBESTOS FREE WARRANTY

PART 1 GENERAL

1.01 FOR

A. Owner: Lee County Government of North Carolina

B. Project: Buggy Building Roof Replacement

C. Project Address: 115 Chatham Street, Sanford, North Carolina 27330

1.02 WARRANTY

A. Date of Substantial Completion: _____

B. Know all men by these presents, that we, _____ (Contractor) having furnished labor, materials, equipment and/or supplies, removed existing roof system; installed new roof system and/or miscellaneous components; from, to and/or on the above referenced project under contract between the Owner and Contractor, warrant to Owner with respect to said work that no materials containing asbestos fibers were incorporated into the work, and that, to our knowledge and belief, no materials containing asbestos remain in or are covered by the work.

C. Exceptions:_____ If there are no exceptions, state "None".

1.03 EXECUTED BY

A. Contractor: _____

B. Authorized Signing Officer Name: _____

C. Authorized Signing Office Title: _____

D. Signature: _____ Date: _____

1.04 NOTARIZED BY:

A. I, _____ (print name), a Notary Public for _____ County of _____ (State), do hereby certify that _____ (officer listed above) personally appeared before me this day and acknowledged the due execution of the foregoing instrument. Witness my hand and official seal, this _____ day of _____, 20 ___. My commission expires ____ of _____, 20 ___.

B. Signed: _____

(OFFICIAL SEAL)

END OF SECTION

SECTION 01 11 00

SUMMARY OF WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Name: Buggy Building Roof Replacement

B. Project Address: 115 Chatham Street, Sanford, North Carolina 27330

C. Owner: Lee County Government of North Carolina

D. Engineer: The Contract Documents, dated 09-28-2026, were prepared by Mark Iakovenko

E. This work includes the provision of labor, material, equipment, supervision and administration to integrate the work outlined in these specifications into the total building system such that no leakage into the system occurs. In general, the scope of work in the Base Bid includes:

1. Low Slope Roof Replacement Sector A
    a. Remove and dispose of the roof system including flashings and sheet metal down to the wood deck.
    b. Secure the existing wood deck to structural framing members.
    c. Provide roof insulation system as detailed in Contract Drawings and as specified in Section 07 22 16 "Roof Insulation".
    d. Fully adhere thermoplastic single ply membrane along with flashings and accessories as specified in Section 07 54 00 "Thermoplastic Single Ply Roofing".
    e. Replace sheet metal flashings and trim as specified in Section 07 62 00 "Sheet Metal Flashing and Trim."
    f. Provide a complete, watertight, 20-year warrantable roof assembly.
2. Low Slope Roof Replacement Sector B
    a. Remove and dispose of the roof system including flashings and sheet metal down to the wood deck.
    b. Secure the existing wood deck to structural framing members.
    c. Provide roof insulation system as detailed in Contract Drawings and as specified in Section 07 22 16 "Roof Insulation".
    d. Fully adhere thermoplastic single ply membrane along with flashings and accessories as specified in Section 07 54 00 "Thermoplastic Single Ply Roofing".
    e. Replace sheet metal flashings and trim as specified in Section 07 62 00 "Sheet Metal Flashing and Trim."
    f. Provide a complete, watertight, 20-year warrantable roof assembly.

3. Low Slope Roof Replacement Sector C
    a. Remove and dispose of the roof system including flashings and sheet metal down to the OSB wood deck.
    b. Secure the existing wood deck to structural framing members.
    c. Provide roof insulation system as specified in Section 07 22 16 "Roof Insulation".
    d. Fully adhere thermoplastic single ply membrane along with flashings and accessories as specified in Section 07 54 00 "Thermoplastic Single Ply Roofing".
    e. Replace sheet metal flashings and trim as specified in Section 07 62 00 "Sheet Metal Flashing and Trim."
    f. Relocate conduits and uni struts to facilitate 8" of base flashing height.
    g. Provide a complete, watertight, 20-year warrantable roof assembly.

F. Provide electrical, plumbing, mechanical, and other related trade work necessary to facilitate project operations. Relocate or raise conduit, HVAC equipment, curbs, and/or plumbing necessary to comply with the requirements of these documents and conform to the requirements of the State Building Code.
    1. Conduct construction operations so that heat, air conditioning, ventilation, electrical, telephone, gas, water, sanitary, storm sewer, and any other service required for the building operations are maintained at all times during normal working hours. Any shutdowns or interruptions shall be coordinated with and approved by the owner.

G. General requirements and specific recommendations of the material manufacturers are included as part of these specifications. The manufacturers' specifications are the minimum standards required for the completed systems. Where specific items listed herein improve the standards required by the manufacturers, they take precedence where their compliance does not affect the manufacturers' guarantee or warranty provisions.

H. Act as the Project Expeditor and coordinate work and schedules of others hired.

1.02 ASBESTOS CONTAINING ROOFING MATERIALS (ACRM):

A. No materials were sampled or tested for asbestos.

B. It is the intention of these specifications that no asbestos bearing materials be incorporated into the work. In the event the contractor determines unanticipated asbestos bearing materials present in the building components, stop work in the affected area, notify the Engineer and Owner, and provide temporary protection as required. Costs incurred due to the presence of hidden or unanticipated asbestos bearing materials will be authorized by Change Order to this contract.

1.03 REFERENCE STANDARDS

A. CSI/CSC MF - Masterformat; 2016.

1.04 CONTRACT

A. Project constructed under a single prime general construction contract between Owner and Contractor.

1.05 WORK UNDER OTHER CONTRACTS

A. Separate Contract: Owner may award a separate contract for performance of certain construction operations at Project site.
   1. None

B. Cooperate with separate contractors so work on those contracts are carried out smoothly without interfering with or delaying Work under this Contract.

1.06 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 49-division format and CSI/CSC MF numbering system.
   1. Section Identification: The Specifications use section numbers and titles to cross-reference Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete.

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
   1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Interpret words and meanings as appropriate. Infer words implied, but not stated, as the sense requires. Interpret singular words as plural and plural words as singular where applicable as the context of the Contract Documents indicates.
   2. Imperative mood and streamlined language are generally used in the Specifications. Perform requirements expressed in the imperative mood. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
      a. The words "shall" "shall be" or "shall comply with" depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 2 – PRODUCTS (NOT USED)

PART 3 -EXECUTION (NOT USED)

END OF SECTION

SECTION 01 14 00

WORK RESTRICTIONS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Administrative and procedural requirements for work sequence, work restrictions, occupancy requirements and use of premises.

1.02 RELATED DOCUMENTS

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

1.03 SUBMITTALS

A. Background Checks: Provide background checks for employees anticipated to work on-site during the project.

1.04 WORK SEQUENCE

A. Construct Work in phases to accommodate the Owner's use; if applicable, of the premises during the construction period; coordinate the construction schedule and operations with the Owner and Engineer.

B. Construct the Work in phases to provide for public convenience. Do not close off public use of facility until completion of one phase of construction provides alternative usage.

C. Keep areas at the facility, except areas under construction, safely accessible to vehicles.

D. Perform Work in a way that does not restrict parking lots or other locations outside the work area from the facility.

1.05 WORK RESTRICTIONS

A. Work hours generally performed during normal business hours.
   1. Provide notification to the Owner and Engineer 48 hours in advance of work outside of normal business hours. No work allowed without prior notification and authorization.

1.06 OCCUPANCY REQUIREMENTS

A. Owner Occupancy:
   1. Owner occupies the premises during construction to conduct his normal operations. Cooperate with Owner in construction operations to minimize conflict and to facilitate Owner usage.

2. Conduct operations as to ensure the least inconvenience and the greatest amount of safety and security for the Owner, building occupants, and the general public.
3. Control noise from operations so that building occupants are not affected.

1.07 SECURITY

A. Restrict the access of persons entering upon the Owner's property in connection with the work to the Contractor's Entrance and to the site of the work.

B. Maintain an accurate record of the names and identification of visitors entering upon the Owner's property in connection with the work of this contract, including times of entering and times of leaving, and submit a copy of the record to the Owner weekly.

C. Background Checks: No persons/personnel allowed on site without the following background checks: Nationwide, Sex Offender check, Social Security Number check. Provide this information to the Engineer/Owner 5 business days prior to the scheduled access for each person. Owner's decision on acceptability of personnel. Each person is required to wear a badge with name, photograph, and company name. Ensure background checks for persons are submitted to Owner and those persons denied access are not allowed on-site.

1.08 USE OF SITE

A. Limit use of premises and confine construction operations to work in areas indicated and approved by Engineer and Owner. Do not disturb portions of site beyond areas in which the Work is indicated.
   1. Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles. Do not use these 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.
   2. Perform Work in a way that does not restrict parking lots or other locations outside the work area from the facility. Maintain safe access for vehicles
   3. Move stored materials and equipment that interfere with operations of the Owner.
   4. Protect surface improvements including pavements, curbs, sidewalks, lawn and landscaped areas, utilities, etc.
   5. Repair to the Owner and Engineer's satisfaction, or to restore to condition at the time of award of Contract, or to make restitution acceptable to the Owner, damages to surface improvements resulting from, or attributable to, the work operation.
      a. Repair damaged concrete by replacing full sections of concrete between control/expansion joints.
      b. Fill ruts in grass areas and grade to original conditions. Provide grass seed and straw.
      c. Replace disturbed landscaping in mulched or natural areas.

B. Transportation Facilities
   1. Truck and equipment access:
      a. Avoid traffic conflict with vehicles of the Owner's employees and customers and avoid over-loading of street and driveways elsewhere on the Owner's property, limit the access of trucks and equipment to the designated areas.

b. Provide adequate protection for curbs and sidewalks over which trucks and equipment pass to reach the job site.

2. Contractor's vehicles:
   a. Require contractor's vehicles, vehicles belonging to employees of the contractor, and other vehicles entering the Owner's property in performance of the work the contract, to use only the designated access route.
   b. Do not permit such vehicles to park on street or other area of the Owner's property except in the designated area.

1.09 USE OF BUILDING

A. Maintain building in a weathertight condition throughout construction period.

B. Take precaution against injuries to persons or damage to property.

C. Protect building, its contents, and its occupants during construction period.

D. Do not overload or permit the structure to be loaded with such weights that endanger its safety or to cause excessive deflection.
   1. Equally distribute materials placed on the roof.

E. Properly secure materials or equipment placed on roof to prevent blow off during wind events. Ensure materials or equipment on roof does not interfere with roof drainage.

F. Repair to the Owner and Engineer's satisfaction, or to restore to condition at the time of award of Contract, or to make restitution acceptable to the Owner, damages to the building and its contents resulting from, or attributable to, the work operation.

G. Indoor Air Quality:
   1. Coordinate with the facility personnel to identify the area where work is performed daily and what HVAC equipment and personnel in the building may be affected by the work.
   2. Work with facility personnel to prevent odors or fumes from entering the building or where found to not be practical due to the work area, HVAC equipment limitations or other reasons; coordinate with facility personnel to have occupants relocated to an area of the building not affected by the work.
   3. When possible, to safely shut down and seal HVAC equipment; as determined by the facility personnel, coordinate with facility personnel to have mechanical units affected by the planned work area and air intakes properly closed and sealed. After closing of mechanical units and air intakes, cover units and intakes with 6-mil polyethylene sheeting taped secure. Remove polyethylene sheeting before coordinating restart of units and intakes.
   4. Provide box carriage fans during work to move and circulate air away from intakes and units.
   5. Where HVAC equipment is required to remain operational during work, coordinate with facility personnel to cover air intakes with charcoal filters prior to beginning work.

6. When starting work using materials which have odors or emit fumes, communicate with facility personnel within the building in the area of the work to determine if fumes or odors are being experienced. If fumes or odors are experienced, stop work until the cause is determined and remediated or occupants can be moved to an area not affected by the work.

1.10 OWNER POLICIES

A. Tobacco Policy

1. The Owner has adopted a Tobacco Free Policy which applies to all County owned property. This is a total ban on tobacco products including cigarettes, cigars, pipes, chewing tobacco, snuff, etc. Contractor is responsible for employee's actions while they are on County property. Failure to follow this policy constitutes a breach of contract and said contract may be terminated without penalty to the County.

B. Weapons and Explosives Policy

1. Excluding law enforcement, persons are prohibited from possessing, carrying using or threatening to use, or encouraging another person to possess, carry, use or threaten to use, weapons or explosives on County property or while attending curricular or extracurricular activities sponsored by the County. This policy applies to weapons or explosives carried openly or concealed. For purposes of this policy, a weapon includes, but is not limited to gun, rifle, pistol or other firearm; or BB gun, stun gun, air rifle, air pistol, bowie knife, dirk, dagger, slingshot, leaded cane, switchblade knife, blackjack, metallic knuckles, razors and razor blades (except solely for personal shaving), fireworks, or sharp-pointed or edged instrument except instructional supplies, unaltered nail files and clips and tools used solely for preparation of food, instruction and/or maintenance on County property. For purposes of this policy, an explosive includes, but is not limited to and dynamite cartridge, bomb, mine or powerful explosive as defined in N.C. G.S. 14-284.1. For purposes of this policy, County property is school building or bus, school campus, grounds, recreational area, athletic field, or other property owned, used or operated by Lee County General Services.

C. Criminal Record Investigation - Contractor Agreement

1. When requested by Owner, obtain a county, state and national criminal history covering the past ten years on contractor applicant or contractor employee, hereafter called prospective worker, providing services to Owner. As a minimum, criminal information sources include State and National access to the SBI/DCI Criminal History Record Information for the prospective worker's residence(s), past ten years and fingerprints forwarded to the Federal Bureau of Investigation for the search. Previously conducted criminal histories more than one year old are required to be updated. Provide a Criminal Histories Report two weeks prior to arriving "on-site" and update report monthly for new hires. Prospective workers who refuse to provide fingerprints and/or consent to the Criminal Background checks or who have been convicted of sexual deviance, sexual crime, domestic violence, violence against another human being, larceny, alcohol/drug trafficking, alcohol/drug abuse or other disqualifying offense as determined by the Owner, are not be allowed on the property.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 21 00

ALLOWANCES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Administrative and procedural requirements governing allowances.

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections apply to this Section, including but not limited to:
   1. Section 06 10 00 - Rough Carpentry
   2. Section 06 15 00 - Wood Decking

1.03 ABBREVIATIONS

A. Abbreviations for typical units of measurement:
   1. Square Foot (SF)
   2. Board Foot (BF)

1.04 CONTINGENCY ALLOWANCE

A. Include the specified contingency allowance in the base bid.

B. Credit unused portion remaining at the completion of the contract back to the Owner.

C. The Owner reserves the right to modify the contingency allowance prior to award of Contract.

1.05 QUANTITY ALLOWANCES

A. Include the specified quantity allowances in the base bid. Use the unit price submitted on the Bid Form to compute the quantity allowances. The quantities indicated on the Bid Form are estimated quantities only for the purpose of comparing bids. Compensation for the unit price bid made for the exact quantity of work performed under the unit price item. Deductive amounts of unit price work included in the Contract Sum are calculated at 100% of the quoted add unit price.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 SCHEDULE OF ALLOWANCES

A. Contingency Allowance: Include a $15,000.00 contingency allowance in the base bid.

B. Quantity Allowances:

1. Replace 250 BF of Deteriorated Wood Plank Deck. Refer to Section 06 15 00 - Wood Decking.
2. Replace 250 BF of Deteriorated Wood Blocking. Refer to Section 06 10 00 - Rough Carpentry.
3. Replace 96 SF of Deteriorated Plywood. Refer to Section 06 10 00 - Rough Carpentry.

END OF SECTION

SECTION 01 22 00

UNIT PRICES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Administrative and procedural requirements for unit prices.

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections apply to this Section, including but not limited to:
   1. Section 06 10 00 - Rough Carpentry
   2. Section 06 15 00 - Wood Decking

1.03 DEFINITION

A. Unit price is an amount proposed by Bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.04 ABBREVIATIONS

A. Abbreviations for typical units of measurement:
   1. Square Foot (SF)
   2. Board Foot (BF)

1.05 UNIT PRICE MEASUREMENT

A. Prior to performing work under a unit price as specified herein, notify the Engineer to allow for measurement of the actual quantities of work. Work performed under these items without prior approval and measurement is at the Contractor's expense.

B. Maintain a daily log including visual documentation (i.e. digital photographs) showing dates, location and exact quantities of unit price work.

C. Owner and Engineer reserve the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent party.

1.06 UNIT PRICE PAYMENT

A. Include in unit prices costs associated with performing the unit price work including but not limited to labor, material, equipment, insurance, applicable taxes, overhead and profit, bonds, etc.

1.07 UNIT PRICE PERFORMANCE

A. Install unit price work in accordance with the applicable specification sections and Contract Drawings.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 SCHEDULE OF UNIT PRICES

A. Provide a unit price for:
   1. Replace Deteriorated Wood Plank Deck. Unit of Measurement: Board Foot (BF). Refer to Section 06 15 00 - Wood Decking.
   2. Replace Deteriorated Wood Blocking. Unit of Measurement: Board Foot (BF). Refer to Section 06 10 00 - Rough Carpentry.
   3. Replace Deteriorated Plywood. Unit of Measurement: Square Foot (SF). Refer to Section 06 10 00 - Rough Carpentry.

END OF SECTION

SECTION 01 23 00

ALTERNATES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Administrative and procedural requirements for alternates.

1.02 RELATED DOCUMENTS

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

1.03 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction or in the products, materials, equipment, systems or installation methods described in the Contract Documents.

1.04 ALTERNATES

A. Indicate on the Bid Form whether the alternate bid amount is to added to or deducted from the base bid in the event the alternate bid is accepted.

B. The Owner reserves the right to accept or reject any or all of the alternate bids.

C. Responsible for determining to his own satisfaction and for his own purposes the limits and extent of the work affected by the alternate bids and to make proper allowance therefore in the submission of alternate bid.

D. Include the cost of each alternate bid as specified in the technical specification sections and as described on the drawings. Perform work required by the alternate bids in accordance with applicable specifications and drawings of the trade section affected.

E. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate selected alternates into the Work. No other adjustments are made to the Contract Sum.

F. The Owner reserves the right to delay the acceptance of the alternate bids during the bid holding period prior to accepting the contract without a change in the dollar amount of the alternate bids.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 SCHEDULE OF ALTERNATES

A. Alternate No. 1: Sector C, relocate all disconnect boxes and conduits to disconnect stands.

END OF SECTION

SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. This Section specifies administrative and procedural requirements for handling requests for substitutions after award of Contract.

1.02 RELATED DOCUMENTS

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

1.03 DEFINITIONS

A. Substitutions: Requests for changes in products, materials, and equipment, of construction required by Contract Documents proposed by the Contractor are considered requests for "substitutions". The following are not considered substitutions:
   1. Revisions to Contract Documents requested by the Owner or Engineer.
   2. Specified options of products and construction methods included in Contract Documents.
   3. Determination of and compliance with governing regulations and orders issued by governing authorities.

1.04 SUBMITTALS

A. Submit requests for acceptance of equivalent items in writing to the Engineer during the submittal process. No substitutions considered after acceptance of project submittals.

B. Substitutions after award are considered solely for convenience and approved by Change Order in form of credit to the Owner. Bear additional costs related to making the substituted material or system work including additional engineering, material or system modifications, and time considerations relating to material or system installation requirements.

C. Provide information sufficient for the Engineer to make a determination of equivalent items. Engineer's determination of the equivalency of a product is final. The Engineer reserves the right to request information or documentation for evaluation including but not limited to the following:
   1. Provide a letter describing in detail proposed changes, substitutions, or deviations from the project or manufacturer's specifications.
   2. A written explanation of why substitutions should be considered is required.
   3. Statement indicating why specified product cannot be provided.
   4. Coordination of information, including a list of modifications needed to other parts of the work necessary to accommodate proposed substitution.

5. Product data including drawings, descriptions, and fabrication/installation procedures.
6. Samples where applicable.
7. Material test reports from a qualified testing agency indicating the interpreting test results for compliance with requirements.
8. Contractor's certification that proposed substitution complies with requirements in the contract documents and is appropriate for applications indicated.
9. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
10. If requesting product substitution after bid award, provide cost information including proposal of change in the contract sum.

PART 2 – PRODUCTS

PART 3 -EXECUTION

END OF SECTION

SECTION 01 26 00

CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Administrative and procedural requirements for handling and processing Contract modifications.

1.02 REFERENCE STANDARDS

A. AIA G701 - Change Order; 2017.

B. AIA G710 - Architect's Supplemental Instructions; 2017.

C. AIA G714 - Construction Change Directive; 2017.

1.03 CLARIFICATIONS

A. Do not change from Contract Documents without a review by the Engineer. Where more detailed information or an interpretation of the Contract Documents is needed, before proceeding with the work, refer the matter to the Engineer who will furnish information or interpretation in the form of a Field Order or other written forms or drawings. Where only part of the work is indicated, consider similar parts repetitive. Where any detail is shown and the components therefore are fully described, construct similar details to require equal materials and construction.

B. In such cases where the nature of the work requires clarification by the Owner, such clarification shall be furnished by the Engineer with reasonable promptness by means of written instructions or detail drawings, or both. Clarifications and drawings shall be consistent with the intent of Contract Documents and shall become a part thereof.

C. Prepare a schedule fixing dates upon which foreseeable clarifications will be required. Schedule is subject to addition or change in accordance with progress of the work. The Engineer shall furnish drawings or clarifications in accordance with that schedule. Do not proceed with the work without such detail drawings and/or written clarifications.

1.04 ADDITIONAL WORK

A. Additional work prices shall include all necessary material, cost of delivery, installation, insurance, applicable taxes, overhead and profit.

B. Prior to performing any additional work as specified herein, the Contractor shall notify the A/E to allow for measurement of the actual quantities of work. Any work performed under these items without prior approval and measurement shall be at the Contractor's expense.

C. The Contractor shall maintain a daily log including visual documentation (i.e. digital photographs) showing dates, location and exact quantities of unit price work.

D. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent party.

1.05 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: A detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time will be issued by the Engineer along with supplemental or revised Drawings and Specifications.
   1. Proposal Requests issued by Engineer are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
   2. Within 5 days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
      a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits. If requested, furnish survey data to substantiate quantities.
      b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
      c. Include costs of labor and supervision directly attributable to the change.
      d. Include an updated Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, propose changes by submitting a request for a change to Engineer.
   1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
   2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits. If requested, furnish survey data to substantiate quantities.
   3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
   4. Include costs of labor and supervision directly attributable to the change.
   5. Include an updated Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
   6. Comply with requirements in Division 1 if the proposed change requires substitution of one product or system for product or system specified.

C. Proposal Request Approval:
   1. If sufficient contingency allowance funds remain, written approval will be provided by the Engineer in the form of an Allowance Authorization signed by the Engineer, Contractor and Owner.

2. If contingency allowance funds are not available; upon approval by Owner, written approval will be provided by the Engineer in the form of a Change Order as provided in the Conditions of the Contract.
    a. Form of Change Order: AIA G701.
    b. Do not commence work or purchase materials for such change orders until written approval is received in the form of an executed Allowance Authorization or Change Order.
    c. An executed Change Order is the only legal document which can change the Contract Sum or Time.

1.06 SUPPLEMENTAL INSTRUCTIONS

A. Supplemental instructions authorizing minor changes in the Work, not involving an adjustment to the Contract Sum or Contract Time, will be issued by the Engineer on AIA G710.

1.07 CHANGE ORDER PROCEDURES

A. Upon the Owner's approval of a Change Order Proposal Request, the Engineer will issue a Change Order for signatures of the Owner and Contractor, as provided in the Conditions of the Contract.

B. A fully executed Change Order is the only legal document which can change the Contract Sum or Time.

C. The Contractor shall not commence work or purchase materials for change orders until written approval is received from the Owner in the form of an executed Change Order.

1.08 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: When the Owner and Contractor are not in total agreement on the terms of a Proposal Request; the Engineer may issue a Construction Change Directive on AIA G714, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
    1. The Construction Change Directive will contain a description of the change in the Work and designate the method followed to determine the change in the Contract Sum or Contract Time.
    2. Submit unit costs, equipment rates and labor rates as requested by the Engineer and agree upon submitted rates before the work progresses unless directed to proceed in the absences of an agreement or in an emergency.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive. Provide a copy of those records the Engineer.
    1. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

END OF SECTION

SECTION 01 29 00

PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.02 RELATED DOCUMENTS

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

1.03 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.04 REFERENCE STANDARDS

A. AIA G702 - Application and Certificate for Payment; 1992.

B. AIA G703 - Continuation Sheet; 1992.

C. AIA G706 - Contractor's Affidavit of Payment of Debts and Claims; 1994.

D. AIA G706A - Contractor’s Affidavit of Release of Liens; 1994.

E. AIA G707 - Consent of Surety to Final Payment; 1994.

1.05 SUBMITTALS

A. Sample Application for Payment Cover on AIA G702 .

B. Schedule of Values: A schedule of values on AIA G703 Continuation Sheet consisting of a detailed breakdown of the Contract amount showing separate figures for labor and materials. The work listed under the various sections and subsections of the Specifications serve as the format for preparation.

1.06 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Submittals.
   1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
      a. Application for Payment Forms with Continuation Sheets

b. Submittals Schedule
c. Contractor's Construction Schedule

2. Submit the Schedule of Values to Engineer along with Submittals.
3. Sub schedules: Where the Work is separated into phases requiring separately phased payments, provide sub schedules showing values correlated with each phase of payment.

B. Format and Content: Provide one line item for labor and one line item for material for each Specification Section.

1. Identification: Include the following Project identification on the Schedule of Values:
   a. Application for Payment Number.
   b. Application for Payment Date.
   c. Engineer's project number.
   d. Period to for Schedule of Values.
2. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents.
3. Provide several line items for principal subcontract amounts, where appropriate.
4. Round amounts to nearest whole dollar; total to equal the Contract Sum.
5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
6. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.
7. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
8. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
9. Complete each item in the Schedule of Values and Applications for Payment. Include total cost and proportionate share of general overhead and profit for each item.
10. Show temporary facilities and other major cost items that are not direct cost of work in place either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
11. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.07 APPLICATION FOR PAYMENT

A. Submit one electronic pdf of the application for payment on AIA G702.

1. Indicate the date for each progress payment. The period of Work covered by each application is the period indicated in the Agreement
2. Provide on original AIA forms.
3. Complete, notarize and execute each Application for Payment by a person authorized to legally sign documents.
4. Show breakdown of the work with separate labor and material amounts on AIA G703 in accordance with the accepted Schedule of Values.

5. Make each application consistent with previous applications and payments as certified by Engineer and paid for by Owner.
6. Engineer will return incomplete applications without action.

B. Payment Terms: Within 45 days of receipt of engineer-approved request, Owner shall make a progress payment to the Contractor on the basis of a duly certified and approved estimate of the work performed during the preceding calendar month under this Contract.

C. Retainage: If contract amount exceeds $100,000, to ensure proper performance of this Contract, 5% of the amount of each estimate will be retained by the Owner until 50% completion, at which time the Owner, with written consent of the surety, shall not retain further retainage from periodic payments due the contractor if the contractor continues to perform satisfactorily and nonconforming work identified in writing prior to that time by the Engineer, engineer or owner has been corrected by the contractor and accepted by the Engineer, engineer or owner.
1. If the owner determines the contractor's performance is unsatisfactory, the owner may reinstate retainage for each subsequent periodic payment application as authorized in this subsection up to the maximum amount of 5%.
2. The project shall be deemed 50% complete when the contractor's gross project invoices, excluding the value of materials stored off-site, equal or exceed 50% of the value of the contract, except the value of materials stored on-site shall not exceed 20% of the contractor's gross project invoices for the purpose of determining whether the project is 50% complete.
3. Within 60 days after the submission of a pay request and one of the following occurs, as specified in the contract documents, the owner with written consent of the surety shall release to the contractor retainage on payments held by the owner:
    a. The owner receives a certificate of Substantial Completion from the Engineer in charge of the project.
    b. The owner receives beneficial occupancy or use of the project. However, the owner may retain sufficient funds to secure completion of the project or corrections on work. If the owner retains funds, the amount retained shall not exceed two and one-half times the estimated value of the work to be completed or corrected. Reduction in the amount of the retainage on payments with the consent of the contractor's surety.

D. Match data of entries on the schedule of values and construction schedule. Include amounts of change orders issued before last day of construction period covered by the application.

E. The Engineer reserves the right to contact material manufacturers directly, without contractor consent, to verify material invoices. Make material invoices available to the Engineer upon his request from the contractor or material manufacturer.

F. When requesting payment for materials stored on site, submit with request an invoice for the materials and a certificate of insurance showing proof of coverage for the materials stored on site. Payment will be made only for stored materials. No payment will be made for anticipated overhead and/or profit.

G. With each application for payment, also submit the following:

1. County/State Sales/Use Tax Statement: Submit with each pay request an original notarized statement provided by the Owner showing taxes paid on the project. List payments made directly to each supplier indicating the supplier's name, invoice date, invoice amount before taxes, taxes paid indicating state and county, and total invoice amount. If no sales taxes have been paid, indicate "NONE" on the statement form and submit accordingly.
2. Unit Price Daily Logs: Submit copies of unit price daily logs and appropriate change order forms with each application for payment unless no unit price work was accomplished during the period covered by the application.
3. AIA G706
4. AIA G706A

H. At substantial completion, submit an application for payment showing 100% completion for portion of the work claimed as substantially complete. Include documentation supporting claim that the work is substantially complete.

I. At final completion, submit final application for payment with releases and supporting documentation not previously submitted and accepted, including but not limited to the following. Final payment not due until required documents have been submitted.
1. Project Closeout Submittals
2. Final County/State Sales/Use Tax Statement.
3. AIA G706
4. AIA G706A
5. AIA G707

END OF SECTION

SECTION 01 31 00

PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
      a. Project Schedule
      b. General project coordination procedures.
      c. Coordination.
      d. Administrative and supervisory personnel
      e. Project meetings

1.02 SUBMITTALS

A. Emergency contact list: Key personnel including home, office, and mobile numbers, for the Owner, Contractor, Subcontractor(s), and Engineer

B. Work schedule:
   1. Indicate start date, crew size, production rate, completion date, etc.
   2. Provide illustrated schedule on an aerial map.

1.03 COORDINATION

A. Coordinate construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Coordinate its operations with those 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.

B. Coordinate the scheduling and sequence of operations with the Owner and Engineer.

C. If necessary, 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.
   1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Construction Schedule.
2. Preparation of the Schedule of Values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Pre-Construction conference.
7. Pre-installation conferences.
8. Project closeout activities.

1.04 PROJECT MEETINGS

A. Pre-Construction Meeting

1. A Pre-Construction Meeting will be scheduled as soon as possible after the award of the contract. The Engineer's Representative will compile minutes of the meeting and will furnish a copy of the minutes to each person present.
2. Attendance: Project Manager, Job Superintendent and Job Foreman, Owner, Engineer's Representative, manufacturer's representatives, installers of related work and other persons concerned with the installation and performance.
   a. Provide 3 telephone numbers to contact the Contractor or his authorized representative in the event of an emergency after normal business hours.
3. Minimum Agenda: Organizational arrangement of Contractor's forces and personnel, and those of subcontractors, materials suppliers, and the Project Manager; channels and procedures for communication; construction schedule, including sequence of critical work; contract documents, including distribution of required copies of Drawings and revisions; processing of Shop Drawings and other data submitted to the Project Manager for review; rules and regulations governing performance of the work and procedures for safety, first aid, security, quality control, housekeeping and related matters.

B. Progress Meetings:

1. Attend monthly progress meetings for the purpose of informing the Owner and the Engineer regarding the status of the project. The Engineer will compile minutes of the meeting and will furnish a copy of the minutes to each person present.
2. Attendance: Owner, Engineer, Contractor, Job Superintendent, material Supplier, and Subcontractors, as appropriate. Provide an updated job progress schedule at each weekly meeting. Be thoroughly familiar with the status of the project and be prepared to discuss and act upon situations that arise. The time, date and location of these meetings will be established during pre-construction conference.
3. Minimum Agenda: Review of work progress; field observations, problems, and decisions; identification of problems which impede planned progress; maintenance of progress schedule; corrective measures to regain projected schedules; planned progress during succeeding work period; coordination of projected progress; maintenance of quality and work standards; processing of field decisions and Change Orders; effect of proposed changes on progress, schedule, and coordination; other business relating to work.

C. Substantial Completion Inspection Meeting
   1. Scheduled by Owner and Engineer upon written notification of substantial completion of work from the Contractor.
   2. Attendance: Owner, Engineer, Contractor, material manufacturer.
   3. Minimum Agenda: Walkover inspection, verification of substantial completion, identification of punch list items and identification of problems potentially impeding issuance of warranties.

D. Final Inspection Meeting
   1. Scheduled by Owner and Engineer upon written notification of final completion of work from the Contractor.
   2. Attendance: Owner, Engineer, Contractor.
   3. Minimum Agenda: Verification of final completion including the completion of the punch list items.

END OF SECTION

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.

1.02 RELATED DOCUMENTS

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

1.03 SUBMITTAL PROCEDURE

A. General: The Contractor is responsible for providing the submittals to the Engineer. Each submittal is required to be accepted in writing prior to commencement of work.

B. Submission Requirements:
   1. Submit required submittals electronically in pdf format to the Engineer for review. The submittals will then be returned electronically to the Contractor with comments. Final submittals require written responses to submittal comments.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as specified below, commencing on Engineers receipt of submittal.
   1. Initial Review: Allow 7 work days for initial review of submittals.
   2. Allow 7 work days for processing each resubmittal.
   3. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.

D. Identification:
   1. Submit as one pdf file with bookmarks for each scheduled item.

E. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals and provide letter describing in detail proposed changes, substitutions, or deviations from the project or manufacturers specifications. Include a written explanation of why substitutions should be considered under the appropriate tab.

F. Transmittal: Package submittals appropriately for transmittal. Engineer will discard submittals received from sources other than Contractor. Include Contractors certification stating that information submitted complies with requirements of the Contract Documents.

G. Use for Construction: Use only final submittals with mark indicating action taken by Engineer in connection with construction.

1.04 SCHEDULE OF SUBMITTALS

A. Refer to the applicable specification section for list of submittal requirements for each section.

B. Submit the following submittal items electronically with a title page and/or pdf bookmark for each submittal item to meet the requirements specified herein:

1. Section 00 52 13 - Copy of Executed Owner/Contractor Agreement along with Certificate of Insurance
2. Section 00 61 13.13: Copy of Executed Performance Bond Form
3. Section 00 61 13.16: Copy of Executed Payment Bond Form
4. Section 00 62 33 - Roof Manufacturers Acknowledgment Form
5. Section 01 14 00 - Work Restrictions
6. Section 01 25 00 - Substitution Procedures
7. Section 01 29 00 - Payment Procedures
8. Section 01 31 00 - Project Management and Coordination
9. Section 01 40 00 - Quality Requirements
10. Section 01 73 00 - Execution Requirements
11. Section 01 77 00 - Closeout Procedures
12. Section 06 10 00 - Rough Carpentry
13. Section 06 15 00 - Wood Decking
14. Section 07 22 16 - Roof Insulation
15. Section 07 54 00 - Thermoplastic Single Ply Roofing
16. Section 07 62 00 - Sheet Metal Flashing and Trim
17. Section 07 72 13 - Manufactured Roof Curbs
18. Section 07 92 00 - Elastomeric Joint Sealants
19. Section 09 91 13 - Exterior Paint
20. Section 23 05 29 - Rooftop Hangers and Supports
21. Shop Drawings: Shop drawings or letter stating installation of materials as detailed in the Contract Drawings unless properly authorized by the Engineer.
22. Physical color samples as specified in the applicable specification section.

PART 2 PRODUCTS

2.01 SUBMITTALS

A. General: Prepare and submit Submittals required herein and by individual Specification Sections.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information is specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:
    a. Manufacturers written recommendations.
    b. Manufacturers product specifications.
    c. Manufacturers installation instructions.
    d. Manufacturers catalog cuts.
    e. Wiring diagrams showing factory-installed wiring.

f. Printed performance curves.
g. Operational range diagrams.
h. Compliance with recognized trade association standards.
i. Compliance with recognized testing agency standards.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Include the following information, as applicable: dimensions, identification of products, fabrication and installation drawings, schedules, coordination requirements and notation of dimensions established by field measurements.
2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.

D. Samples: Prepare physical units of materials or products, including the following:
1. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show range of color and texture variations expected. Samples include, but are not limited to, partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
2. Submit three sets of Samples. Engineer will retain two Sample sets; remainder will be returned.
3. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Engineers sample where so indicated. Attach label on unexposed side.
4. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and component as delivered and installed.
5. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity and used to determine final acceptance of construction associated with each set.

E. Qualification Data: Prepare 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 engineers and owners, and other information specified.

F. Product Certificates: Prepare written statements on manufacturers letterhead certifying that product complies with requirements.

G. Installer Certificates: Prepare written statements on manufacturers letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.

H. Manufacturer Certificates: Prepare written statements on manufacturers letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.

I. Material Certificates: Prepare written statements on manufacturers letterhead certifying that material complies with requirements.

J. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agencys standard form, indicating and interpreting test results of material for compliance with requirements.

K. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

L. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software used for calculations. Include page numbers.

M. Manufacturer's Instructions: Prepare written or published information that documents manufacturers recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer.

N. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, and term of the coverage.

PART 3 EXECUTION

3.01 CONTRACTORS REVIEW

A. Review each submittal, check for compliance with the Contract Documents and note corrections and field dimensions prior to submitting to Engineer.

3.02 ENGINEERS ACTION

A. Submittals: Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Engineer will stamp each submittal item with an action stamp and will mark stamp appropriately to indicate action taken.

B. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. This Section includes administrative and procedural requirements for quality assurance and quality control.
   2. Secure and pay costs of licenses and permits required by City, County and/or State authorities.

1.02 RELATED DOCUMENTS

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

1.03 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction comply with requirements. Services do not include contract enforcement activities performed by Engineer.

C. Authority Having Jurisdiction: AHJ

1.04 DELEGATED DESIGN

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Engineer.

1.05 SUBMITTALS

A. Permit: Provide copy of construction permits along with required licenses or certifications required by the AHJ.

B. Manufacturer Report Release: Provide copy of request from Contractor to Manufacturer requesting REI Engineers be added to the manufacturer's report distribution list.

1.06 QUALITY ASSURANCE

A. Perform quality assurance in accordance with governing Codes, referenced standards, established standards, or industry standards.

B. Solely responsible for supervising and directing the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise necessary to perform the Work in accordance with the Contract. Solely responsible for the means, methods, techniques, sequences and procedures of construction and for coordinating portions of the Work under the Contract, except where otherwise specified in the Contract Documents. Solely responsible to the Owner that the finished Work complies with the Contract Documents.

C. It is the intent under this contract that workmanship be of the best quality consistent with the materials and construction methods specified. The presence or absence of the Owner's or Engineer's representative in no way relieves the Contractor of his responsibility to furnish materials and construction in compliance with the drawings and specifications. The Owner and Engineer have the authority to judge the quality and require replacement of unacceptable work or personnel.

D. Cooperate in the execution of work and plan work in such manners as to avoid conflicting schedules or delay of work. If the work depends upon the work of another Contractor, report defects affecting the work to the Engineer. Commencement of work where such condition exists constitute acceptance of the other Contractor's work as being satisfactory to receive the work commenced. Coordinate work of trades under this contract in such a manner to obtain the best possible workmanship for the project. Install components of the work in accordance with the best practices of the particular trade. Notify the Owner sufficiently in advance of operations to allow for assignment of personnel.

E. Solely responsible for health and safety precautions and programs for workers and others in connection with the Work. No inspection by, knowledge on the part of, or acquiescence by the Engineer, the Owner, the Owner's employees and agents, or other entity whatever relieves the Contractor from its sole responsibility for compliance with the requirements of the Contract or its sole responsibility for health and safety programs and precautions.

F. Materials or methods described by words which, when applied, have a well-known technical or trade meaning are held to refer to such recognized standard. Standard specifications or manufacturer's literature, when referenced, are of the latest revision or printing unless otherwise stated, and are intended to establish the minimum requirements acceptable.

G. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or accepted, deliver materials to the site in original packages or containers with seals unbroken and labels intact and do not open until reviewed and accepted by the Engineer. Notify the Engineer prior to such material's delivery.

H. Provide new materials unless otherwise indicated.

I. Provide workmanship in accordance with the best modern practice.

J. Verify dimensions and conditions at the site prior to starting work and notify the Engineer immediately of any errors or inconsistencies.

K. Maintain one set of the contract documents and accepted submittals at the job site.

L. Correct deficiencies identified by Engineer and non-conforming work within 24 hours of receipt of notification, either verbally or written, and submit a plan of action for addressing the deficiencies and non-conforming work. Do not proceed with further tear-off or commencement of other work until deficiencies and non-conforming work are properly addressed.

M. Control of Installation
1. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
2. Comply with manufacturers' instructions, including each step in the sequence
3. Request clarification from Engineer before proceeding in the event manufacturers' instructions conflict with Contract Documents.
4. Comply with specified standards as the minimum quality for the Work, except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
5. Only allow Work performed by person qualified to produce workmanship of specified quality.
6. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

N. Tolerances:
1. Monitor tolerance control of installed products to produce acceptable work. Do not permit tolerances to accumulate.
2. Comply with manufacturers' tolerances. Request clarification from Engineer in the event manufacturers' tolerances conflict with Contract Documents.
3. Adjust products to appropriate dimensions; position before securing products in place.

O. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
1. Maintain applicable federal, state and municipal licenses.
2. Be certified in writing for a minimum of 2 years by the material manufacturer to install the primary specified products.
3. Have a minimum of 5 years' experience in installing the same or similar materials specified under the same firm name as that submitting the bid. If requested, submit a copy of firm's Articles of Incorporation to verify years in business. Crew workers on site are experienced and have a working knowledge of the system being installed.
4. Principals of the firm to have a minimum of 10 years' experience in the estimating, supervision, management and administration of a contracting firm engaged in work similar to work as specified.
5. Licensed by state work is occurring in for the type and dollar amount of work contemplated by these Contract Documents.
6. Never filed bankruptcy or filed for protection from creditors.
7. Be able to provide a 90 minute response travel time from their closest office to the Project site.

8. During the construction and completion of work covered by these Specifications, if the conduct of workers of the various crafts is determined unsuitable or a nuisance to the Owner or Engineer, or if the workman is considered incompetent or detrimental to the work, order such party removed from the grounds with the person not returning during the course of work on the project.
9. Superintendent: During the performance of work by the Contractor or subcontractors, provide an on site and full time superintendent/representative meeting the following requirements:
    a. For the purpose of these Specifications the designation "superintendent" is hereby defined as the individual present on the job site while work is being performed, and whose primary responsibility is to supervise and direct the performance of the Work.
    b. Be in attendance at the project site during the progress of the work and duties as superintendent limited to this project only. Supervise and instruct workmen without engaging in the work process. If superintendent is absent temporarily from the project, designate a competent foreman to assume duties. During the superintendent's absence, foreman cannot engage in the work process; supervise and instruct only. Likewise, communications given to the foreman are binding as if given to the Contractor.
    c. Communicate matters pertaining to the Work with the Owner and Engineer. Do not make decisions regarding changes in the Work without the Owner and Engineer's knowledge.
    d. Decision making authority and ability.
    e. Able to demonstrate knowledge of work being installed.
    f. Fluent in the English language (reading, writing and speaking).
    g. In possession of mobile telephone.
    h. Employed by the Contractor at least six months prior to project commencement.
    i. Owner approval and Engineer acceptance.
    j. Once approved, do not change the superintendent except with the consent of the Owner unless he proves unsatisfactory to the Owner or Contractor or is no longer employed.
    k. Minimum of five 5 years continuous experience as a job superintendent.
10. No later than ten days prior to the pre-construction conference, provide the Owner, in writing, the names of the proposed project manager, superintendent, and foreman for approval. If he so determines, the Owner, without giving cause, may request an additional name, or names, be submitted for approval. The Owner will notify the Contractor of his acceptance at least 48 hours prior to the pre-construction conference.

P. Specialists: Certain sections of the Specifications require that specific construction activities be performed by entities who are recognized experts in those operations. Specialists satisfy qualification requirements indicated and be engaged for the activities indicated.

Q. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

R. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.07 QUALITY CONTROL

A. The authorized representatives and agents of Owner permitted to inspect work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records.

B. Owner Responsibilities:
   1. Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
      a. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of the types of testing and inspecting they are engaged to perform.
      b. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.

C. Contractor Responsibilities:
   1. Repair and protection of work and materials.
   2. Replace work or materials not conforming with requirements of the Specifications or damaged during the progress of the work before completion and acceptance of the project.
   3. Coordinate documents with manufacturer and perform such testing, reporting, and communication incidental to provisions of the warranty procedures.
   4. Inclement Weather
      a. In the event of temporary suspension of work during inclement weather, or whenever the Engineer recommends, protect carefully its work and materials against damage or injury from weather. If work or materials have been damaged by reason of failure to protect the work, replace such materials.
      b. During inclement weather and temporary suspension of work, inspect the facility no later than 9:00 AM each day for leaks and perform temporary repairs if necessary. Make inspections daily during extended periods of inclement weather. Upon arrival at the facility, inform the Owner of his presence and purpose.
      c. If inspection of the facility does not occur by 9:00 AM on days of inclement weather and there is one or more leaks attributable to the Work, at 9:15 AM the Owner can exercise his right to contact an outside contractor to perform temporary repairs as necessary to prevent damage to the building, its contents and to minimize disruption. Reimburse the outside contractor an equitable amount as determined solely by the outside contractor. If the Contractor arrives at the project site after the outside contractor has been contacted, but before temporary repairs are made, reimburse the amount contractor the fixed amount of $500.00, each occasion, for mobilization and/or travel expenses.
      d. In the event inclement weather occurs after normal business hours, Saturday, Sunday or holidays, make arrangements with the Owner to provide access to the building to inspect for leaks. Compensate Owner for providing personnel for the service on an hourly rate basis as determined solely by the Owner.

D. Manufacturer's Field Services: During construction, perform quality assurance site visits every ten working days by manufacturer's technical representative to ensure materials are being properly installed and as required to obtain the specified warranty.

1. The first site visit performed within the first three (3) days of operations.
2. Coordinate site visits with Engineer. Submit reports of findings within one week of inspection. Payment applications will be rejected until applicable reports are received.
    a. If required by manufacturer, Contractor shall request REI Engineers be added to the report distribution list.
3. Inspections to be performed by an employee of the selected manufacturer that is assigned full time to their technical services department. Sales personnel are not acceptable for this function and may result in rejection of the work installed that does not fulfill this requirement.
4. Manufacturer's final inspections performed only with REI personnel in attendance. A minimum of seven days' written notice is required. Manufacturer's final inspection conducted without REI personnel in attendance will be repeated at no additional cost to the Owner.
5. Violation of these requirements results in the removal of that manufacturer for a period of not less than one year from the Engineer's accepted materials list.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 REPAIR AND PROTECTION

A. On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

B. Protect construction exposed by or for quality control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality control services.

END OF SECTION

SECTION 01 42 00

REFERENCE STANDARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Requirements relating to referenced standards.

1.02 RELATED DOCUMENTS

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

1.03 REFERENCE STANDARDS

A. Reference standards are specified in Part 1 of the applicable specification section.

B. For products or workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

C. Comply with the reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

D. Should specified reference standards conflict with Contract Documents, request clarification from the Engineer before proceeding.

E. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Engineer shall be altered by Contract Documents by mention or inference otherwise in any reference document.

1.04 BUILDING CODE

A. Comply with the building code and energy conservation code/standard in effect in North Carolina and current on date of Contract Documents.
   1. 2018 North Carolina Building Code
   2. 2018 North Carolina Energy Conservation Code

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.

1.02 RELATED DOCUMENTS

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

1.03 REFERENCE STANDARDS

A. NFPA 10 - Standard for Portable Fire Extinguishers; 2022.

B. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

C. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021).

1.04 USE CHARGES

A. Include in Contract, cost or use charges for temporary facilities which are not chargeable to Owner. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, occupants of testing and inspecting agencies and personnel of authorities having jurisdiction.

1.05 QUALITY ASSURANCE

A. Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241 .

B. Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70 .

C. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

D. Develop and supervise an overall fire-prevention and first-aid fire-protection program for personnel at Project site. Review needs with local fire department and establish procedures. Instruct personnel in methods and procedures. Post warnings and information.

PART 2 PRODUCTS

2.01 MATERIALS

A. General: Provide new materials or utilize undamaged, previously used materials in serviceable condition if accepted by Engineer. Provide materials suitable for use intended.

B. Fencing:
   1. Safety Fence: Safety orange high density polyethylene fabric with a minimum of 4 feet in height, 15 lbs. per 100 linear feet. Painted steel fence posts with ground anchors and metal tabs stationed often enough to hold the fabric at a minimum height of 3 feet 8 inches tall.

C. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.

D. Water: Potable.

E. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material with a self-contained or standalone exterior handwashing station.

F. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110 to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.

G. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure and the requirements of the local Governing agency.

H. Ground Protection Mats: 4 foot by 8 foot, HDPE infused with rubber for traction mats designed to protect landscaping from construction equipment.

PART 3 EXECUTION

3.01 TEMPORARY UTILITIES

A. Water Service: Water for construction purposes is available from the Owner at no charge. Operate exterior hose bibs only with properly fitted handles. Remove at the end of each workday. Repair damage to hose bids or hose bib stems. Do not operate hose bibs with pliers.

B. Electrical Power Service: Provide portable generators for electrical power requirements.
   1. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths do reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.

3.02 CONSTRUCTION FACILITIES

A. Temporary construction facilities include the following:

1. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities. Located facilities at sites approved by Owner. Access inside the facility is not available.
    a. 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.
    b. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy.
    c. Wash Facilities: Provide adequate hand washing stations.
    d. Drinking-Water Facilities: Provide bottled-water, drinking-water units.
2. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations at a location approved by the Owner. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste. Use of Owner's waste disposal facilities is not acceptable.
    a. If required by authorities having jurisdiction, provide separate containers, clearly labeled, for each type of waste material.

3.03 TEMPORARY BARRIERS, ENCLOSURES AND CONTROLS

A. Provide temporary barriers and enclosures for protection from exposure, foul weather, construction operations and other activities. Protect buildings and grounds from damages during construction.

B. Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including flashing red or amber lights.

C. Provide security controls to protect work and materials at the project site.

D. Provide fencing to enclose the materials storage and staging area.

E. Provide and maintain suitable temporary sidewalks, closed passageways, fences, or other structures required by law so as not to obstruct or interfere with traffic in public streets, alley ways, or private right-of-way. Leave an unobstructed way along public and private places for pedestrians and vehicles.

F. Provide walks over and around all obstructions in public places. Maintain sufficient light and guards to protect persons from injury.

G. Provide emergency egress from existing occupied areas at all times as required by AHJ. Maintain egress path in compliance with requirements of the applicable building code.

3.04 PROTECTION FACILITIES INSTALLATION

A. Provide environmental protection by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

B. Provide storm water controls sufficient to prevent flooding from heavy rain.

C. Protection of materials stored on site.
   1. Material storage will be where shown in Contract Drawings.
   2. Protect materials stored on the job site from theft and weather related damage.
   3. Store as much material in locked trailers as practicable.
   4. Place no more material on the job site than is necessary to maintain the work schedule.
   5. Do not deliver materials prior than 7 days eariler then work commencing.

3.05 TREE AND PLANT PROTECTION:

A. Contractors are hereby reminded and cautioned that care shall be exercised to protect trees and plants which are to remain during the progress of the Project. Suitable barriers shall be provided around all trees and plants that are to remain and which are in the construction area and product handling area. All damage to such trees and plants shall be repaired; broken limbs properly and neatly pruned and painted with pruning paint; all trunk damage neatly dressed and painted with pruning paint. Any trees and plants which are excessively damaged shall be replaced in like, kind, size, and species by The Contractor at no additional cost. All work shall be by a recognized and approved nursery.
   1. All grading around trees and plants to remain shall be such that the root system shall not be disturbed. Earth shall not be temporarily piled around trees and plants, nor shall earth be graded to the trees and plants above the natural root depth for that particular species.
   2. Established trees and plants, which are in the way of construction and which are in the material handling areas, shall be removed and stored for future replanting. The services of a recognized and approved nursery shall be employed to remove the trees and plants and prepare them for storage. Removed trees and plants shall be properly balled and burlapped in accordance with their size. During the time of storage, they shall be properly watered and cared for in accordance with the instructions from the nursery. After the construction work is completed, the stored trees and plants shall be replanted, and those trees and plants not replanted shall be disposed of as directed by the Owner.

3.06 CRANES, HOISTS AND LIFTING

A. Where cranes and other lifting equipment are required, develop and maintain a plan to execute the work in a safe manner including the following items at a minimum:
   1. Erection, climbing and dismantling process
   2. Inspection process for equipment and rigging
   3. Exclusion zones
   4. Maintenance processes
   5. Identification of Qualified/Competent persons
   6. Lifting plan
   7. Process for identifying and working around aerial hazards

8. Signalmen communication
9. Working around energized lines
10. Ground conditions and underground hazards

B. Ensure that cranes and lifting equipment are certified for use by a Qualified/Competent person prior to first use and annually (at a minimum).

C. Ensure that cranes and lifting equipment are inspected as required by a third party Qualified/Competent person.

D. Provide ground protection mats over landscaped areas beneath lifts.

E. Do not operate or travel lifts over curbs or sidewalks. Where necessary to travel equipment over curbs or sidewalks, provide adequate protection to prevent damage.

3.07 PROJECT SIGNAGE

A. Provide temporary signs to provide information to building occupants directing them away from construction operations.

B. Provide signage inside adjacent buildings alerting occupants of the Work Area.

3.08 VEHICULAR ACCESS AND PARKING

A. Parking for vehicles available only in the approved Set-up and Staging area. No other vehicle parking on site is allowed.

B. Owner Personnel vehicles will be removed from the construction area prior to the start of construction.

3.09 TRAFFIC CONTROLS

A. Obtain and erect street/parking lot signage as necessary to divert traffic away from staging areas, work area, etc. Coordinate signage requirements with the Owner and Engineer.

B. Provide temporary traffic controls at junction of temporary roads with public roads. Include warning signs for public traffic and "STOP" signs for entrance onto public roads. Comply with requirements of authorities having jurisdiction.

END OF SECTION

SECTION 01 73 00

EXECUTION REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. General procedural requirements governing execution of the Work.

1.02 RELATED DOCUMENTS

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

1.03 SUBMITTALS

A. List of Materials on the project site including manufacturer name and product name.

B. Safety Data Sheets (SDS):
   1. Safety Data Sheets (SDS) for materials/products anticipated for use and stored or brought to the site for completion of this project.
   2. Maintain on site with the Superintendent a set of SDS for products/materials on site.

C. Existing Damage Documentation: Existing damaged/dysfunctional components documentation (videotape, photos, etc.) including but not limited to asphalt spills, windows, walls, sidewalks, paving, ceilings, etc. Lack of submission prior to commencement of work indicates no existing damaged components and Contractor takes responsibility for damages caused by operations.

PART 2 PRODUCTS

2.01 MATERIALS

A. Material storage area designated by the Owner at the Pre-Bid and Pre-Construction Meetings and/or indicated in Contract Drawings.
   1. Store materials as required by the manufacturer and indicated in their installation instructions.
   2. Store materials as required by their respective specification section.
   3. Properly secure materials to resist wind events.

B. Deliver and transport materials to project in accordance with the Owner's requirements and coordinate material deliveries with Owner.

C. Hazardous Materials:
   1. Use products, cleaners, and installation materials that are not considered hazardous.

2. Store chemicals in a fireproof cabinet. Store only like materials together in a cabinet. Ensure labels are intact or to place labels on chemicals prior to delivery to site.

PART 3 EXECUTION

3.01 EXAMINATION

A. Existing Conditions:
   1. The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of construction affecting the Work.

B. Existing Utilities:
   1. The existence and location of utilities and construction indicated as existing are not guaranteed.
   2. Before construction, verify the location and points of connection of utility services.
   3. Before beginning work, investigate and verify the existence and location of utilities and other construction affecting the Work.

C. Acceptance of Conditions:
   1. Examine areas, and conditions for compliance with requirements for installation tolerances and other conditions affecting performance.
   2. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include a description of the work, list of detrimental conditions, list of unacceptable installation tolerances and recommended corrections.
   3. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.02 PREPARATION

A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each material. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

C. Review of Contract Documents and Field Conditions: Upon discovery of the need for clarification of the Contract Documents, submit a request for information to Engineer. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.03 INSTALLATION

A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

B. Install products at the time and under conditions that ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

C. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

3.04 STARTING AND ADJUSTING

A. Test equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.05 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

3.06 CORRECTION OF THE WORK

A. Restore permanent facilities used during construction to their specified condition.

B. Replace components that are not up to specification standards.

END OF SECTION

SECTION 01 73 29

CUTTING AND PATCHING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. This Section includes procedural requirements for cutting and patching.

1.02 RELATED DOCUMENTS

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

1.03 DEFINITIONS

A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.04 QUALITY ASSURANCE

A. Engineer's Acceptance: Obtain acceptance of cutting and patching before cutting and patching. Acceptance does not waive right to later require replacement of unsatisfactory work.

B. Structural Elements: Do not cut and patch structural elements in a manner that changes their load-carrying capacity or load-deflection ratio. Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations sealed by a licensed Engineer in the state of the project showing integration of reinforcement with original structure.

C. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that result in increased maintenance or decreased operational life or safety.

D. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that change their load-carrying capacity that results in reducing their capacity to perform as intended, or that result in increased maintenance or decreased operational life or safety.

E. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that, in the Engineer's opinion, reduces the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

F. Cutting and Patching Conference: If extensive cutting and patching is required, before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.05 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 PRODUCTS

2.01 MATERIALS

A. General: Comply with requirements specified in other Sections of these Specifications.

B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces.
   1. If identical materials are unavailable or cannot be used, use materials that, when installed, match the visual and functional performance of existing materials.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine surfaces and conditions under which cutting and patching are performed.
   1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
   2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Services: Where existing services are removed, relocated, or abandoned, bypass such services before cutting to minimize interruption of services to occupied areas.

3.03 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction.
   1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
   2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
   3. Concrete or Masonry: Cut using an abrasive saw or a diamond-core drill.
   4. Excavating and Backfilling: Comply with requirements in Section 31 00 00 Earthwork where required by cutting and patching operations.
   5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
   6. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
   1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
   2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that eliminate evidence of patching and refinishing.
   3. Floors and Walls: Where walls or partitions that are removed extend from one finished area into another, patch and repair floor and wall surfaces. Provide an even surface of uniform finish, color, texture, and appearance. Replace floor and wall coverings, if necessary, to achieve uniform color and appearance.
      a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over unbroken surface containing the patch to the nearest joint or delineation between materials. Provide additional coats until patch blends with adjacent surfaces.
   4. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather tight condition.
   5. Ceilings: Patch, repair, or re-hang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

D. Renovation Project Procedures
   1. Materials: As specified in technical sections, match existing products and Work.
   2. Employ skilled and experienced installer to perform cutting and patching.
   3. Remove, cut and patch materials in a manner to minimize damage and to provide a means of restoring products and finishes to original condition.
   4. Refinish existing visible surfaces to remain in renovated rooms and spaces, to renewed condition for each material, with a neat transition to adjacent finishes.

5. Where work abuts or aligns with existing construction, provide a smooth and even transition. Patch work to match existing adjacent work in texture and appearance.
6. When a smooth transition with Work is not possible, submit recommendation to Engineer for review. Terminate existing surface along a straight line at a natural line of division when possible.
7. Patch or replace portions of surfaces, which are damaged, lifted, discolored or showing other imperfections.
8. Finish surfaces as specified in individual Product sessions.
9. Cutting and patching completed in a manner such that the patched surfaces are compatible with the surfaces in which the repairs were made, both structurally and aesthetically as deemed appropriate by the Project Engineer.

E. Restoration: Restore existing work, including concealed work not indicated or specified to be modified, and which is damaged or otherwise affected by construction operations, to a condition which existed before the work was commenced. Use workers skilled in reconstruction and alteration work where construction adjoins, connects to, or abuts existing work. Join Work in such a manner as to make the joining as inconspicuous as possible. Obvious patching of damaged Work is not acceptable. At the completion, ensure that the buildings and grounds are in first-class condition within the intent of these specifications, with parts well joined as required, connections completed, and facilities in working condition.

3.04 CLEANING

A. Clean areas and spaces where cutting and patching is performed where required for construction or used as access.

B. Remove paint, mortar, oils, putty and similar materials.

C. Leave work in an acceptable completed condition.

END OF SECTION

SECTION 01 74 00

CLEANING AND WASTE MANAGEMENT

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Administrative and Procedural requirements for progress cleaning and construction waste management.
      a. Include removing debris from top of ceiling tiles in final cleaning.

1.02 RELATED DOCUMENTS

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

1.03 REFERENCE STANDARDS

A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021).

1.04 DEFINITIONS

A. Waste: Material that has reached the end of its intended use. Waste includes salvageable, returnable, recyclable and reusable material.

B. Construction waste: Solid wastes including, but not limited to, building materials, packaging materials, debris and trash resulting from construction operations.

C. Salvage: To remove a waste material from the Project site to another site for resale or reuse by others.

D. Hazardous waste: Material or byproduct of construction that is regulated by the Environmental Protection Agency and cannot be disposed in a landfill or other waste end-source without adherence to applicable laws.

E. Trash: Product or material unable to be returned, reused, recycled or salvaged.

F. Landfill: Public or private business involved in the practice of trash disposal.

1.05 CLOSEOUT SUBMITTALS

A. Landfill charge tickets

PART 2 PRODUCTS

2.01 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or cause damage to finished surfaces.

PART 3 EXECUTION

3.01 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 in a legal manner.
   1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
   2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.
   3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

B. Site:
   1. Maintain Project site free of waste materials and debris.
   2. Keep site free of nails, screws, fasteners and scrap metal. Utilize magnets as necessary to sweep parking lots, driveways and sidewalks. Responsible for repair or replacement of punctured tires of site occupants.

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 impairs proper execution of the Work, broom-clean or vacuum the work area, as appropriate.
   3. If necessary, have a heavy-duty vacuum on site to remove small, loose debris from work area.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or 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 do not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Final Acceptance.

G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. remove paint, mortar, oils, putty, and similar materials. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

H. Waste Disposal: Burying or burning waste materials on-site is not permitted. Washing waste materials down sewers or into waterways is not permitted.

I. 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 Final Acceptance.

J. 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.

K. Limiting Exposures: Supervise construction operations to ensure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.02 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
   1. Except as otherwise specified, do not allow waste materials to accumulate on-site.
   2. Remove and transport debris in a manner that prevents spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Remove waste materials from Owner's property and legally dispose of them.

D. Separate, store and dispose of hazardous wastes in accordance with local and EPA regulations and additional criteria listed below:
   1. Do not incinerate building products manufactured with PVC or containing chlorinated compounds.
   2. Disposal of fluorescent tubes to open containers is not permitted.
   3. Do not co-mingle unused fertilizers with construction waste.

3.03 FINAL CLEANING

A. Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
   1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion.
   2. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including, waste material, litter, and other foreign substances.
   3. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.

4. Remove tools, construction equipment, machinery, and surplus material from Project site. Properly dispose of unwanted surplus material.
5. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
6. Remove debris and surface dust from roofs and walls.
7. Clean transparent materials and glass in windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
8. Remove labels that are not permanent.
9. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
10. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess foreign substances.
11. Replace parts subject to unusual operating conditions.
12. Leave Project clean and ready for occupancy.
13. Clean debris from top side of suspended ceiling tiles.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

SECTION 01 77 00

CLOSEOUT PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
      a. Inspection Procedures.
      b. Project Record Documents.
      c. Warranties.

1.02 RELATED DOCUMENTS

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

1.03 REFERENCE STANDARDS

A. AIA G704 - Certificate of Substantial Completion; 2017.

1.04 SUBMITTALS

A. Warranties: Submit copy of warranties to meet the requirements of their respective specification section.

1.05 SUBSTANTIAL COMPLETION

A. Submit written certification to the Engineer that the Project is substantially complete along with the following:
   1. Prepare a list of items to be completed and corrected (Contractor's punch list), the value of items on the list, and reasons why the Work is not complete.
   2. Notify Owner of pending insurance changeover requirements.
   3. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
   4. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
   5. Notify Owner of changeover in heat and other utilities.
   6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
   7. Complete final cleaning requirements, including touchup painting.
   8. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Substantial Completion Inspection: On receipt of written substantial completion certification, the Engineer will make a substantial completion inspection within 7 days after receipt of certification.
   1. Should the Engineer consider the Work not substantially complete, he will notify the Contractor, in writing, stating the reasons. Complete the Work and send a second written notice to the Engineer, certifying the Project is substantially complete, at which time the Engineer will re-inspect the work.
   2. Should the Engineer consider the Work substantially complete, he will prepare and issue AIA G704 accompanied by the list of items to be completed or corrected (Punch List).
   3. A punch list of items will be prepared for correction and completion before the Final Inspection. Complete the punch list items within 15 days of the punch list inspection. If the Contractor fails to complete the punch list within this period, the Owner has the right to impose liquidated damages in the amount of $1,000.00 for each consecutive day until the items are completed.

1.06 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
   1. Submit a final Application for Payment according to Division 01.
   2. Submit signed copy of Engineer's inspection list of items to be completed or corrected (punch list) certifying each item has been completed or otherwise resolved for acceptance.
   3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
   4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Final Inspection: The submission of the signed punch list constitutes as written request for final inspection for acceptance. On receipt of request, Engineer along with the Owner's Representative will conduct a final inspection within 7 days of receipt of certification.
   1. Should the Engineer consider that the Work is finally complete in accordance with requirements of the Contract Documents, Project Closeout Submittals will be requested.
   2. Should the Engineer consider that the Work is not finally complete, notification to the Contractor, in writing, stating the reasons will be made.
   3. Take steps to remedy the stated deficiencies and send a second written notice to the Engineer certifying that the Work is complete, at which time the Engineer will re-inspect the Work.

1.07 PROJECT RECORD DOCUMENTS

A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Engineer's reference during normal working hours.
   1. Submit required record documents and warranties within 30 days of the punch list inspection. If the Contractor fails to properly submit required items within this period, the Owner has the right to impose liquidated damages in the amount of $1,000.00 for each consecutive day until the items are properly submitted.

B. Record Drawings: Maintain and submit one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.
   1. Mark Record Prints to show where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
      a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
      b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
   2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
   3. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
   4. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.

C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate where installation varies from that indicated in Specifications, addenda, and contract modifications.
   1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
   2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
   3. Note related Change Orders and Record Drawings, where applicable.

D. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
   1. Completed and signed Engineer's Punch List
   2. Copy of Manufacturer's Final Inspection Report
   3. Landfill Charge Tickets
   4. Certificate of Occupancy from AHJ

1.08 WARRANTIES

A. Warranties to commence on the date of Substantial Completion of the project.

B. Thermoplastic Single Ply Roofing System warranty as outlined in Section 07 54 00 - Thermoplastic Single Ply Roofing.

C. Pre-finished Sheet Metal finish warranty as outlined in Section 07 62 00 - Sheet Metal Flashing and Trim.

D. Contractor's Warranty - utilize form contained in Section 00 65 36.

1. Two Year Warranty: Manufacturer's Representative and Contractor's Representative will attend post construction field inspection no earlier than one month prior to the expiration date of the Contractor's Warranty. Submit a written report within seven (7) days of the site visit to the Engineer listing observations, conditions and recommended repairs or remedial action.

E. Asbestos Free Warranty - utilize form contained in Section 00 65 37.

END OF SECTION

SECTION 06 10 00

ROUGH CARPENTRY

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Rough Carpentry work required to facilitate installation of roof assembly including:
      a. Provide rough carpentry.
      b. Resecure rough carpentry to remain in place.
      c. Replace damaged, rotted, or deteriorated rough carpentry.
      d. Provide wood sleeper equipment supports for condensing units.
      e. Provide wood framing at roof hatch to be included in Base Bid.

1.02 RELATED DOCUMENTS

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

1.03 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.

B. ASTM F1667/F1667M - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples; 2021a.

C. FM DS 1-49 - Perimeter Flashing; October 2021.

D. PS 20 - American Softwood Lumber Standard; 2025.

1.04 DEFINITIONS

A. Rough Carpentry includes carpentry work not specified as part of other Sections and generally not exposed.

1.05 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

1.06 QUALITY ASSURANCE

A. Inspect wood for damage, warping, splits, and moisture content as defined by the applicable wood products industry standards. Reject materials that do not comply.

B. Rough carpentry to present a smooth, consistent substrate for roof system and flashing installation.

C. Qualifications of workers: Provide sufficient, competent and skilled carpenters in accordance with accepted practices and supervisors present during execution of the work. Be thoroughly familiar with type of construction involved and related work and techniques specified.

D. Label: Bear the stamp of the AWPA Quality Mark, indicating compliance with the requirements of the AWPA Quality Control Program.

E. Installation of rough carpentry for roofing and flashing terminations to ensure plumb, uniform and level metal flashings.

F. Install rough carpentry to ensure roof membrane flashing transitions are smooth for positive roof drainage and appearance.

G. Installation of fasteners and associated materials to secure rough carpentry as detailed and specified.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Store a minimum of four inches above ground on framework or blocking. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks. Cover with protective waterproof covering providing for adequate air circulation and ventilation.

B. Avoid exposure to precipitation during shipping, storage, or installation. If material does become wet, replace, or permit to dry prior to covering or enclosure by other roofing, sheet metal or other construction materials (except for protection during construction).

C. Upon delivery to job site, place materials in area protected from weather.

D. Do not store seasoned materials in wet or damp portions of building.

E. Protect sheet materials from corners breaking and damaging surfaces, while unloading.

PART 2 PRODUCTS

2.01 MATERIALS

A. Wood Nailers/Blocking:
   1. No. 2 or better spruce or southern yellow pine lumber meeting PS 20 standards.
   2. Sound, thoroughly seasoned, dressed to nominal finish dimension, and free of warpage, cupping, and bowing.
   3. Dimensions determined by job conditions or as indicated in detail drawings.

B. Plywood:
   1. APA PS 1 Rated Sheathing, 32/16, Exposure 1, Grade C, thickness to match existing or as indicated in Contract Drawings.

2.02 FASTENERS

A. General:
   1. Stainless steel or as accepted by Engineer.
   2. Fasteners securing pressure treated lumber manufactured for corrosion resistance and exposures associated with pressure treated wood applications.
   3. Do not use nails at roof edges to fasten rough carpentry, lumber, plywood, etc. Use screws, anchors, and/or machine bolts to secure rough carpentry at roof perimeter edges.
   4. Do not use masonry screws, spikes, and drive-pins to fasten edge/perimeter nailers to concrete. Utilize minimum 1/2-inch diameter anchors or bolts to secure roof edge nailers to concrete.
   5. Do not secure or fasten edge/perimeter wood nailers to hollow core concrete masonry; grout concrete masonry units and provide minimum embedment of fasteners to meet anchor manufacturer's installation instructions.
   6. Do not secure edge/perimeter wood nailers to brick masonry as the primary securement method.

B. Nails: 8d (0.135 inch shank diameter), 10d (0.148 inch shank diameter) or 16d (0.162 inch shank diameter), type 316 stainless steel, ring shank nails. meeting ASTM F1667/F1667M. Length to embed into base substrate a minimum 1-1/2 inches.
   1. Maze Nails
   2. Anchor Staple and Nail
   3. Simpson Strong Tie
   4. Manasquan Premium Fasteners
   5. Engineers accepted equivalent.

C. Screws: No. 10 or greater, stainless steel wood screws with flat head, or insulation screws. Length to embed into base substrate a minimum of 1-1/2 inches.

D. Self-Drilling Screws (for steel deck and light gauge steel framing, 16-ga. or less): #14-13 DP1, pancake or panhead, corrosion resistant, ASTM A153/A153M, FM Approved, self-drilling and self-tapping screw, length to provide minimum 3 pitches of thread through metal thicknesses or 3/4 inch through top flange of steel deck.
   1. ITW Buildex Teks
   2. Triangle Fasteners
   3. SFS Intec
   4. Engineers accepted equivalent.

E. Self-Drilling Screws (for structural steel, greater than 12-gauge): #12-24 DP5 (for steel thickness up to 1/2 inch) or DP4 (for steel thickness from 1/8 inch to 3/8 inch), flat or hex head, corrosion resistant, self-drilling/self-tapping fastener of length to provide minimum 3 pitches of thread through metal thicknesses.
   1. ITW Buildex Teks
   2. SFS Intec
   3. Blazer
   4. Engineers accepted equivalent

F. Epoxy Adhesive Anchor System: Minimum 1/2-inch diameter, corrosion resistant threaded rods supplied by the anchoring system manufacturer, length to provide minimum embedment as required by fastener manufacturer based upon substrate being secured. Screen for substrate provided by fastener manufacturer. Corrosion resistant nut and 1-1/2 inch diameter flat washer.

1. Hilti Hit Hy-10 Plus
2. Powers Fasteners, Inc. AC100 Anchoring System
3. Red Head Epcon C6 Fast Curing Epoxy
4. Engineers accepted equivalent.

G. Masonry Screws: 1/4-inch minimum diameter, Type 410 stainless steel with flat head. Length to provide minimum 1 inch embedment into substrate.
1. Tapcon by ITW Buildex,
2. KWIK-CON II by Hilti
3. Powers Fasteners Tapper+
4. Engineers accepted equivalent.

H. Washers: Fasteners heads for screws, anchors and bolts terminating at the surface of nailers provided with a minimum 5/8-inch diameter, stainless steel or similar corrosion resistance flat washer provided by fastener manufacturer, unless washer is provided from factory as part of the fastener assembly.

PART 3 EXECUTION

3.01 EXAMINATION

A. Inspect substrates to receive rough carpentry, and ensure substrates are in satisfactory condition prior to installation of rough carpentry.

B. Inspect rough carpentry including fasteners for material condition before proceeding with installation. Replace deteriorated, rotted, damaged, split, warped, twisted, or wet materials.

C. Remove cants, tapered edge strips, debris, fasteners, etc. that interfere with the installation of rough carpentry.

D. Notify Engineer in writing of unsatisfactory conditions.

E. Commencement of work signifies acceptance of substrates. Correct defects in work resulting from accepted substrates at no additional expense to the Owner.

3.02 PREPARATION

A. Steel/Metal Substrates:
1. Coat steel and metal with a uniform, heavy application of asphalt primer, or separate by membrane or other acceptable means to prevent contact between steel/metal and treated wood products.

B. Roof Deck and Structure:
1. Adjust substrates to receive rough carpentry to ensure completed rough carpentry installation is acceptable for roofing and sheet metal flashings.

C. Epoxy Adhesive Anchor System:
1. Follow adhesive anchor manufacturer's published instructions for preparation and installation.
2. Pre-drill hole for adhesive anchors.
3. Use compressed air to blow-out and remove dust and moisture before installing adhesive anchors.

3.03 INSTALLATION

A. Replace damaged or deteriorated wood blocking, nailers, and curbs.

B. Re-secure wood nailers at roof edges that are to remain with fastener type and spacing to comply with this section.

C. Install wood blocking, nailers, and curbs to achieve a minimum 8-inch flashing height above the roof membrane.

D. Install wood nailers at perimeter roof edges and low-profile expansion joints to match insulation height while maintaining a constant nailer height along perimeter edges.

E. Install wood blocking and nailers concurrently with roof system installation. Removal of insulation and/or folding back of roof membrane to install wood blocking and nailers at a later date is not acceptable.

F. Set rough carpentry to required levels and lines, with members plumb, true to line, material cut to fit, and braced to hold work in proper position. Use a belt sander to remove obtrusive surface irregularities. Drive nails and spikes home; and pull bolt nuts tight with heads and washers in close contact with the wood.

G. Fit rough carpentry to other construction, scribe and cope for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction. Install joints between wood for a smooth transition.

H. Attachment:
   1. Consult the fastener manufacturer's published literature and follow the recommended requirements for pre-drilling, cleaning, placement, and compatibility of substrates. Follow manufacturer's requirements for fasteners spacing substrate preparation and substrate embedment where not specified.
   2. Securely attach rough carpentry work to substrate with fasteners anchored to resist the required upward and outward design wind loads.
   3. Meet the requirements herein and that of FM DS 1-49 for rough carpentry attachment.
   4. Install bolts flush with the top surface of nailers where possible to avoid countersinking. Bolt bottom nailers then fasten above nailers where possible. Countersink bolts, nuts and screws flush with wood surfaces only as detailed; countersink a maximum of one half the board thickness.
   5. Install fasteners without splitting wood. Pre-drill where necessary. Replace split or damaged wood to provide acceptable conditions.
   6. For anchors, pre-drill concrete and masonry units to prevent damage or cracking of the masonry. Consult fastener manufacturer's published guides. Repair or replace damaged masonry with fasteners re-installed in an acceptable location.
   7. Fastener spacing: Staggered in two rows 1/3 the board width when board is wider than 6 inches and installed within 3 to 4 inches of each end.
      a. Nails: Securing wood to wood spaced as indicated below with two nails installed within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints. Do not utilize nails at roof edges, utilize screws.
         1) Perimeter (Zone 2) spacing of 12 inches maximum and Corner (Zone 3) spacing of 6 inches maximum.
         2) Perimeter (Zone 2) spacing of 9 inches maximum and Corner (Zone 3) spacing of 6 inches maximum.

b. Screws: Securing wood to wood spaced as indicated belowwith two screws installed within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints.
   1) Perimeter (Zone 2) spacing of 12 inches maximum and Corner (Zone 3) spacing of 6 inches maximum.

c. Self-Drilling Screws: Securing wood to steel spaced as indicated below with one screw within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints.
   1) Perimeter (Zone 2) spacing of 12 inches maximum and Corner (Zone 3) spacing of 6 inches maximum.

d. Epoxy Adhesive Anchors System: Spaced as indicated below, staggered and an additional fastener within 3 to 4 inches of each end of nailer to prevent boards from twisting at board joints.
   1) Perimeter (Zone 2) spacing 48 inches max and Corner (Zone 3) spacing 24 inches max.

e. Masonry Screws: Securing wood to concrete or masonry units as indicated below with fasteners installed within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints. Do not utilized at perimeter roof edges.
   1) Perimeter (Zone 2) spacing of 12 inches maximum and Corner (Zone 3) spacing of 6 inches maximum.

I. Select fasteners of size and length that are not exposed from the building interior and/or from the ground, or remove protruding fasteners, paint or finish to eliminate exposure.

J. Thickness of wood nailers flush with adjacent insulation and other materials. Install additional fasteners to ensure nailers are flush.

K. Unless otherwise detailed, install plywood used as blocking or shim below dimensional lumber such that the fastener head terminates at the dimensional lumber surface.

L. Do not utilize wood nailers at roof perimeters, expansion joints, roof area dividers, etc. less than 3 feet long.

M. When multiple nailers are installed stacked two high or more, offset nailers no less than 12" such that joints at nailer end do not line-up vertically.

N. Fasten each end of nailers with additional fasteners to ensure a smooth transition at butted joints, and to prevent warping and/or twisting.

O. Shims:
   1. Provide plywood and lumber shims as required for the specified height and thickness.
   2. Shims to make full contact with stacked rough carpentry. Partial shim contact, and small shim pieces spaced apart are not acceptable.

P. Curbs:
   1. Adjust wood curbs to support rooftop piping, ducts, equipment, etc.
   2. Raise equipment to provide required flashing height for roofing.

3.04 CLEANING

A. Ensure the site and building are cleaned to meet pre-construction conditions, as accepted by the Owner.

B. Clean the site and building of saw dust from lumber, fasteners, and other debris.

C. Repair or replace damages to the building, grounds, equipment, and site to meet pre-construction conditions, as accepted by the Owner.

END OF SECTION

SECTION 06 15 00

WOOD DECKING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Wood Deck:
      a. Replacement of damaged, rotted, or deteriorated wood plank deck using unit prices.
      b. Securement of wood plank deck to structural framing members.
      c. Deck repairs at roof hatch to be included in Base Bid.
      d. Refer to Construction Drawings for information for 2X6 wood truss.

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and the following Specification Sections apply to this Section:
   1. Section 07 01 50 - Preparation for Reroofing
   2. Section 07 22 16 - Roof Insulation
   3. Section 07 54 00 - Thermoplastic Single Ply Roofing

1.03 REFERENCE STANDARDS

A. ASTM F1667/F1667M - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples; 2021a.

B. PS 20 - American Softwood Lumber Standard; 2025.

C. American Wood-Protection Association (AWPA)

1.04 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

1.05 QUALITY ASSURANCE

A. Inspect wood for damage, warping, splits, and moisture content as defined by the applicable wood products industry standards. Reject materials that do not comply.

B. Qualifications of workers: Provide sufficient, competent and skilled carpenters in accordance with accepted practices and supervisors present during execution of the work, and thoroughly familiar with type of construction involved in the work and techniques specified.

C. Moisture Content:

1. 19 percent or less before being covered/enclosed into roofing assembly.
2. Ensure lumber and plywood is delivered, stored and installed at 19% or less moisture content.

D. Lumber Standards: Comply with PS 20 and applicable rules of respective grading and inspecting agencies for species and products indicated.

E. Installation of fasteners and associated materials to secure lumber and plywood as detailed and specified.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Store a minimum of four inches above ground on framework or blocking. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks. Cover with protective waterproof covering providing for adequate air circulation and ventilation

B. Avoid exposure to precipitation during shipping, storage or installation. If material becomes wet, replace or permit to dry prior to covering or enclosure by roofing, sheet metal or other construction materials (except for protection during construction).

C. Upon delivery to job site, place materials in area protected from weather.

D. Do not store seasoned materials in wet or damp portions of building.

E. Protect sheet materials from corners breaking and damaging surfaces, while unloading.

PART 2 PRODUCTS

2.01 MATERIALS

A. Wood Plank Deck:
1. No. 2 or better spruce or southern yellow pine.
2. Sound, thoroughly seasoned, dressed to nominal finish dimension, and free of warpage, cupping, and bowing.
3. Match dimensions of existing wood planks.

2.02 FASTENERS

A. Nails: 8d (0.135 inch shank diameter) or 10d (0.148 inch shank diameter), type 316 stainless steel, ring shank nails meeting ASTM F1667/F1667M. Length to ember into base substrate a minimum 1-1/2 inches. Manufacturers:
1. Maze Nails
2. Anchor Staple and Nail
3. Simpson Strong-Tie
4. Manasquan Premium Fasteners
5. Engineers accepted equivalent.

B. Screws: No. 10 or greater, stainless steel wood screws with flat head. Length to embed into base substrate a minimum of 1-1/2 inches.

PART 3 EXECUTION

3.01 EXAMINATION

A. Inspect substrates to receive decking and ensure substrates are in satisfactory condition prior to installation.

B. Inspect decking including fasteners for material condition before proceeding with installation. Replace deteriorated, rotted, damaged, split, warped, twisted or wet materials.

C. Notify Engineer in writing of unsatisfactory conditions.

D. Commencement of work signifies acceptance of substrates. Correct defects in work resulting from accepted substrates at no additional expense to the Owner.

3.02 PREPARATION

A. Dry, broom and vacuum debris and foreign matter from roof deck prior to installation of rough carpentry.

B. Adjust substrates to receive decking to ensure completed deck installation is acceptable for roof installation.

3.03 INSTALLATION

A. Replace damaged or deteriorated decking.

B. Set decking to required levels and lines, with members plumb, true to line, material cut to fit, and braced to hold work in proper position. Use a belt sander to remove obtrusive surface irregularities. Drive nails and spikes home; and pull bolt nuts tight with heads and washers in close contact with the wood.

C. Fit decking to other construction, scribe and cope for accurate fit with joints between wood installed for a smooth transition.

D. Attachment:
   1. Consult the fastener manufacturer's published literature and follow the recommended requirements for pre-drilling, cleaning, placement and compatibility of substrates. Follow manufacturer's requirements for fasteners spacing, substrate preparation and substrate embedment where not specified.
   2. Install fasteners flush with the top surface of wood where possible to avoid countersinking.
   3. Wood Plank Deck Securement:
      a. Field of Roof: Nails securing wood plank deck spaced 12 inches apart, staggered, with two nails installed within 6 inches of each end of nailer lengths to prevent wood from twisting at board joints.
      b. Perimeter/Corners: Nails securing wood plank deck spaced 6 inches apart, staggered, with two nails installed within 6 inches of each end of nailer lengths to prevent wood from twisting at board joints.

E. Select fasteners of size and length that are not exposed from the building interior and/or from the ground, or remove protruding fasteners, paint or finish to eliminate exposure.

3.04 CLEANING

A. Ensure the site and building are cleaned to meet pre-construction conditions, as accepted by the Owner.

B. Clean the site and building of saw dust from lumber, fasteners and other debris.

C. Repair or replace damages to the building, grounds, equipment and site to meet pre-construction conditions, as accepted by the Owner.

END OF SECTION

SECTION 07 01 50

PREPARATION FOR REROOFING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Complete preparatory work prior to roof installation including but not limited to:
      a. Removal of roof assemblies down to the wood deck.
      b. Raising of mechanical units and/or HVAC units to meet the required minimum flashing height.
      c. Under roof deck survey

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and the following Specification Sections apply to this Section:
   1. Section 06 10 00 - Rough Carpentry
   2. Section 06 15 00 - Wood Decking
   3. Section 07 22 16 - Roof Insulation
   4. Section 07 54 00 - Thermoplastic Single Ply Roofing

1.03 DEFINITIONS

A. Removal: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain property of the Owner.

B. Existing to remain: Protect construction indicated to remain against damage and soiling during demolition. When accepted by Engineer, items may be removed to a suitable, protected storage location during demolition, cleaned and reinstalled in their original locations.

C. Material ownership: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished items become the Contractor's property. Remove demolished items from the site.

1.04 REFERENCE STANDARDS

1.05 SUBMITTALS

1.06 EXISTING ROOF ASSEMBLIES

A. Refer to Contract Drawings for existing roof system composition.

1.07 QUALITY ASSURANCE

A. Qualifications: Previous experience removing roof systems.

B. Requirements: Comply with governing EPA regulations and hauling/disposal regulations of authorities having jurisdiction.

1.08 SCHEDULING

A. Do not disrupt Owner's operations during demolition. Provide 72 hours notification to Owner of activities that affect Owner's operations.

1.09 WARRANTIES

A. Repair or replace damage to existing items under warranty with materials acceptable to the Warrantor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 EXAMINATION

A. Survey conditions to determine extent of demolition.

B. Record the conditions of items to be removed/reinstalled and items to be removed/salvaged.

C. Do not remove elements that result in structural deficiency or collapse the structure or adjacent structures during demolition.

D. Inspect substrate for soundness and notify Engineer in writing of deficiencies. Commencement of work signifies acceptance of site conditions.

3.02 PREPARATION

A. Do not begin demolition until utilities have been disconnected/sealed and have been verified as such in writing.

B. Do not close off or obstruct streets, walks or other adjacent occupied facilities without permission from Owner and authorities having jurisdiction.

C. Provide safe conditions for pedestrians. Erect temporary protection, walkways, fences, railings, and canopies as required by OSHA and other governing authorities.

D. Provide protection for adjacent building, appurtenances and landscaping to remain. Erect temporary fencing around trees to remain.

E. Provide temporary weather protection as required to prevent water leakage and damaged to exterior or interior of adjacent structures.

3.03 UTILITIES/SERVICES

A. Maintain utilities that are to remain in service and protect them against damage during selective site demolition unless authorized in writing by the Owner and authorities having jurisdiction.
   1. Locate conduits and equipment attached to the underside of the decking prior to reroofing. Do not disturb conduits or interior components/equipment with insulation fasteners.
   2. If utilities serving occupied portions of the site are shut down, provide temporary services.
   3. Provide 72 hours' notice to Owner if shut down is required.
   4. Where services are removed, relocated or abandoned, provide necessary bypass connections to remaining occupied buildings and areas.

3.04 POLLUTION CONTROLS

A. Use water, mist, temporary enclosures and other suitable methods to limit the spread of dust and dirt. Comply with local EPA regulations.
   1. Do not use water where there is potential for damage to occur or where hazardous conditions, ice or flooding are created.

3.05 UNDER ROOF DECK SURVEY

A. Prior to work being performed, complete a survey of the under deck components.

B. Locate and mark conduit, utilities, etc. that interfere with the replacement roof system.

C. Determine the presence of spray applied fireproofing on the underside of the roof deck. If fireproofing is present, utilize caution when removing and replacing roof system to prevent fireproofing from dislodging. Survey interior of building during tear-off operations and at end of each day. Clean up debris daily. Report displaced fireproofing to the Owner/Engineer.
   1. Contractor is responsible to repair displaced fireproofing and repair any interior finishes damaged from the displaced fireproofing.

D. Notify Owner and Engineer prior to survey being performed.

3.06 REMOVALS

A. Coordinate and sequence roof removal such that tear-off debris and materials are not stored on or trafficked over the replacement roof system and such that varying heights between roof assemblies does not adversely affect roof drainage.

B. Demolish and remove construction only to the extent required.

C. Remove roof membrane, flashings, roof insulation, and sheet metal and discard.

D. Remove or correct obstructions which interfere with the proper application of materials.

E. Lift or remove equipment so that flashings can be replaced.

F. Remove debris to provide clean, dry substrate.

G. Remove and transport debris in a manner that prevents damage/spills to adjacent buildings and areas.

H. Dispose of demolished items and materials on a daily basis. On-site storage of removed items is not permitted.

I. Transport demolished materials off-site and dispose of materials in a legal manner.

J. Perform progress inspections to detect hazards resulting from demolition activities.

3.07 FLASHING HEIGHTS

A. Permanently raise roof top equipment as required to achieve 8" minimum flashing height.

B. Provide additional wood blocking to top of parapet walls and expansion joints to achieve minimum 8" flashing height.

C. Extend sanitary vents to height required by the applicable Plumbing Code, but no less than 8 inches and no more than 12 inches above the finished roof system.

3.08 CLEANING

A. Inspect the site daily and clean up debris and hazards at the end of each day. Keep adjacent roads, drives and walkways in operation and free from construction materials debris.

B. Clean adjacent structures of dust dirt and debris. Return adjacent areas to original conditions to the satisfaction of the Owner.

END OF SECTION

SECTION 07 22 16

ROOF INSULATION

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Provide roof insulation system as specified in Section 01 11 00 - Summary of Work and as indicated in Contract Drawings.

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections, and the following Specification Sections, apply to this Section:
   1. Section 06 10 00 - Rough Carpentry
   2. Section 07 01 50 - Preparation for Reroofing
   3. Section 07 54 00 - Thermoplastic Single Ply Roofing

1.03 REFERENCE STANDARDS

A. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board; 2022.

B. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2023a.

1.04 PERFORMANCE REQUIREMENTS

A. R Value
   1. In accordance with the referenced Energy Conservation Code and ASHRAE 90.1.
   2. Minimum continuous R-value: No less than existing.
   3. R value based on Long-Term Thermal Resistance (LTTR) for polyisocyanurate insulation and manufacturer's published data for other insulation components, as tested in accordance with specified the specified.

B. Wind Design: Install insulation system to meet the required wind uplift pressures as specified in Contract Drawings.

1.05 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

C. Shop Drawings: Tapered insulation plan from material supplier with minimum R-value for each roof area.

1.06 QUALITY ASSURANCE

A. Install insulation in accordance with their respective manufacturer's requirements.

B. Reject insulation not bearing UL label at point of delivery.

C. Remove insulation damaged or wetted before, during, or after installation from the job site no later than the next working day from the day such damage or moisture contamination is noted.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials in the manufacturer's original sealed and labeled packaging.

B. Storage: Store materials out of direct exposure to the elements on pallets or dunnage at least 4 inches above ground level at location acceptable to Owner.
   1. Utilize tarps that cover materials to prevent moisture contamination. Remove or slit factory shrouds and/or visqueen; do not use these materials as tarps.
   2. Install vapor retarders under material storage areas located on the ground.
   3. Remove damaged or deteriorated materials from the job site.
   4. Store adhesives in accordance with manufacturer's instructions.

C. Handling: Handle material in such a manner to prevent damage and contamination with moisture or foreign matter.

1.08 PROJECT CONDITIONS

A. Do not apply insulation during precipitation. Take responsibility for starting installation in the event there is a probability of precipitation occurring during application.

B. Take necessary action to restrict dust, asphalt, and debris from entering the structure.

C. Do not remove more roofing than can be replaced with insulation, membrane and flashings in the same day to create a watertight installation.

PART 2 PRODUCTS

2.01 MATERIALS

A. Insulation Boards:
   1. Roof Insulation:
      a. Rigid polyisocyanurate roof insulation board complying with ASTM C1289 Type II, Class 1, Grade 2 and meeting the following requirements:
         1) Factory applied glass fiber reinforced cellulosic felt facers on the top and bottom.
         2) 24 hours minimum curing time, plus an additional 24 hours minimum per inch thickness, at a minimum of 60 degrees F before shipment from the manufacturer.

3) 2 percent maximum linear change dimensional stability when conditioned at 158 degrees F and 97 percent relative humidity for seven days.
4) Maximum permissible insulation board size for mechanical attachment is 4 feet by 8 feet and for foam adhesive and hot asphalt attachment is 4 feet by 4 feet. Field cutting of larger boards is not acceptable.
5) Thickness: as indicated in Contract Drawings

2. Tapered Insulation System:
a. Rigid polyisocyanurate roof insulation board complying with ASTM C1289 Type II, Class 1, Grade 2 and meeting the following requirements:
1) Factory applied glass fiber reinforced cellulosic felt facers on the top and bottom.
2) Curing time: 24 hours minimum, plus an additional 24 hours minimum per inch thickness, at a minimum of 60 degrees F before shipment from the manufacturer.
3) Dimensional stability: 2 percent maximum linear change when conditioned at 158 degrees F and 97 percent relative humidity for seven days.
4) Board size: 4 feet by 4 feet.
5) Slope: 1/4 inch per foot
6) Minimum thickness: 1.5 inch
7) Fill Insulation: Rigid polyisocyanurate meeting the above requirements with board size of 4 feet by 4 feet and thickness of 2 inches.
8) Crickets and Saddles: Rigid polyisocyanurate meeting the above requirements with a board size of 4 feet by 4 feet and 1/2 inch per foot slope.

3. Cover Board:
a. Cover board approved by roof system manufacturer. Board Size: 4 feet by 8 feet. Minimum thickness as listed below or as required by roof system manufacturer.
1) Georgia Pacific 1/4-inch Dens Deck Prime Roof Board
2) DEXcell 1/4-inch FA Glass Mat Roof Board
b. Lightweight, high-density polyisocyanurate roof board with coated fiberglass facers, minimum compressive strength of 90 psi, R-value of 2.5 and 1/2 inch thick.

B. Insulation Accessories:
1. Tapered Edge Strip:
a. Wood Fiber: Asphalt impregnated wood fiber tapered edge strips with 1 inch per foot slope of sizes indicated in Contract Drawings or required by field conditions meeting ASTM C208.

C. Insulation Mechanical Attachment Materials:
1. Wood Deck Fasteners and Stress Plates: Corrosion resistant 3-inch galvalume stress plate and corrosion resistant screw type fasteners for use with wood decks; approved by the insulation manufacturer for the insulation type, thickness and board size specified; fastener length as required by the fastener manufacturer for the insulation thickness specified, and to penetrate the deck a minimum of 1 inch.

D. Adhesives:

1. Foam Adhesive: One or two part, VOC compliant, moisture-cured polyurethane foamable adhesive designed as roof insulation adhesive and approved by insulation manufacturer.
    a. Primer: Provide as required by adhesive manufacturer and substrate conditions.

PART 3 EXECUTION

3.01 EXAMINATION

A. Inspect substrate for soundness and notify Engineer in writing of deficiencies.

B. Commencement of work signifies acceptance of substrates. Correct defects in work resulting from accepted substrates at no additional expense to the Owner.

3.02 PREPARATION

A. Dry and broom roof deck clean of debris and foreign matter prior to installation of insulation system.

3.03 APPLICATION

A. General

1. Apply in accordance with the insulation and roof system manufacturer's instructions and these specifications.
2. Install insulation in full boards, carefully fitted and pushed against adjoining sheets to form tight joints. Gaps exceeding 1/4 inch are not acceptable.
3. Saw cut or knife cut insulation and cover boards in a straight line, not broken. Utilize chalk lines to cut insulation. Uneven or broken edges are not acceptable.
4. Remove insulation dust and debris that develops during insulation cutting operations.
5. Offset joints between successive and adjacent layers of insulation a minimum of six inches.
6. Stagger joints of cover boards one foot (vertically and laterally) to ensure that joints do not coincide with joints from the previous or adjacent layer.
7. Install crickets, saddles and tapered edge strips before the cover board.
8. Adhere cant strips and tapered edge strips at transitions, terminations and/or penetrations as detailed or required ribbons of foam adhesive to ensure smooth transitions are provided for the roof membrane and flashings.
9. Provide necessary modifications to insulation system or nailers at roof edges as required to ensure a flush and smooth transition is provided for the roof membrane and flashing.
10. Make field modifications of insulation, tapered insulation, tapered edge strips and cants where required to accommodate roof and flashing conditions and to prevent water dams and ponding water. Ponding water at scuppers and cricket valleys is not acceptable.
11. Ponding Water:
    a. The ponding of water on the roof surface after installation of the roofing system is not acceptable and is grounds for rejection of the roof.

b. Ponding is herein defined as precipitation remaining in a four-square foot area or larger, 1/4 inch or deeper for a period of 24 hours from the termination of precipitation.

c. Provide modifications to insulation system to ensure proper drainage and prevent standing water including but not limited to reinstallation of roof system or installation of additional tapered insulation.

B. Tapered Insulation System:

1. Install tapered insulation system to provide positive slope for roof drainage without ponding water.
2. Insulation boards may require mechanical fasteners and stress plates at slope transition of crickets to minimize bridging.

C. Tapered Edge Strips:

1. Install at edges to make transitions as detailed in Contract Drawings.
2. Provide to form crickets in front of curbs wider than 12 inches.
3. Provide slope transition at the outside of drainage sumps.
4. Provide slope at top of parapet walls below coping.
5. Use 1/2 inch by 6-inch tapered edge strips in front of tapered insulation crickets to provide smooth transition.

D. Insulation Mechanical Attachment:

1. Fastener quantity and spacing as required to comply with the requirements of roof system manufacturer's approved, tested assembly.
2. Install fasteners using manufacturer's recommended equipment and in accordance with the manufacturer's requirements.
3. Set fasteners and stress plates secure and tight against the insulation surface and do not over drive.

E. Foam Adhesive:

1. Position and space adhesive beads as required to comply with the requirements of the roof system manufacturer's approved, tested assembly.
2. Size adhesive beads in accordance with the adhesive manufacturer's guidelines.
3. Place insulation boards onto the beads and "walk" and/or "weight" into place. Place insulation boards into the adhesive in accordance with the adhesive manufacturer's guidelines.
4. Ensure adhesion of insulation and take whatever steps necessary to achieve adhesion, including but not limited to temporary ballasting of insulation until adhesive sets.

END OF SECTION

SECTION 07 54 00

THERMOPLASTIC SINGLE PLY ROOFING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Provide adhered thermoplastic membrane and flashings to provide a permanently watertight system.

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections, and the following Specification Sections, apply to this Section:
   1. Section 06 10 00 - Rough Carpentry
   2. Section 07 01 50 - Preparation for Reroofing
   3. Section 07 22 16 - Roof Insulation
   4. Section 07 62 00 - Sheet Metal Flashing and Trim

1.03 REFERENCE STANDARDS

A. ASCE 7-10 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; 2010.

B. ASTM D4434/D4434M - Standard Specification for Poly(Vinyl Chloride) Sheet Roofing; 2021.

C. ASTM D6754/D6754M - Standard Specification for Ketone Ethylene Ester Based Sheet Roofing; 2015.

D. FM 4470 - Examination Standard for 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; 2022.

E. UL 580 - Standard for Tests for Uplift Resistance of Roof Assemblies; Current Edition, Including All Revisions.

F. UL 790 - Standard for Standard Test Methods for Fire Tests of Roof Coverings; Current Edition, Including All Revisions.

G. UL 1897 - Uplift Tests for Roof-Covering Systems; Underwriters Laboratories Inc.; Current Edition, Including All Revisions.

1.04 PERFORMANCE REQUIREMENTS

A. Install roofing system to meet UL 790 Class A Fire Rating.

B. Wind Uplift Strength: Provide an approved roof assembly tested in accordance with FM 4470, UL 580 or UL 1897 to resist the minimum required wind uplift strength specified in the Contract Drawings.

1.05 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

C. Roof System Assembly Letter: Letter from roof system manufacturer listing roof assembly components along with their method of attachment and acceptance of the specified roof system warranty terms. Assembly letter should match the submitted test report documentation and specified assembly.

D. Test Reports: Submit documentation of approved, tested roof system to meet the specified requirements for the following:
   1. Wind uplift pressures
   2. UL Fire Resistance Rating

E. Shop Drawings:
   1. Submit manufacturer approved drawings and details for conditions not depicted in Contract Drawings including but not limited to inside corners, outside corners, lap seams, etc.

1.06 QUALITY ASSURANCE

A. Manufacturer Requirements:
   1. Written contractor/installer approval program.
   2. Primary membrane products (including roof membrane and flashing membrane) manufactured by other manufacturers and private labeled are not acceptable.

B. Contractor Requirements:
   1. Install roof system by a Contractor authorized by the membrane manufacturer for a minimum of two years with manufacturer's highest certification level.
   2. Application of the roofing system accomplished by primary roofing contractor, his roofing foreman, and sufficient applicator technicians who have been trained and approved by the manufacturer of the single ply roofing system. Submit evidence of qualification from the manufacturer.

C. No deviations made from the Contract Documents or the accepted shop drawings without prior written acceptance by the Engineer.

D. Complete work by personnel trained and authorized by the membrane manufacturer.

E. Upon completion of the installation, provide inspection by a representative of the membrane manufacturer to review the installed roof system and document deficiencies.

F. Provide manufacturer written verification indicating seams have been probed and are watertight.

1.07 DELIVERY, STORAGE AND HANDLING

A. Delivery: Deliver materials in the manufacturer's original sealed and labeled packaging and in quantities required to allow continuity of application.

B. Storage: Store materials out of direct exposure to the elements on pallets or dunnage at least 4 inches above ground level at location acceptable to Owner.
   1. Utilize tarps that cover materials to prevent moisture contamination. Remove or slit factory shrouds and/or visqueen; do not use these materials as tarps.
   2. Install vapor retarders under material storage areas located on the ground.
   3. Remove damaged or deteriorated materials from the job site.
   4. Store membrane rolls lying down on pallets and protected from the weather with clean canvas tarpaulins. Unvented polyethylene tarpaulins are not accepted due to the accumulation of moisture beneath the tarpaulin in certain weather conditions affecting the ease of membrane weldability.
   5. Store adhesives at temperatures approved for the product.
   6. Store flammable materials in a cool, dry area away from sparks and open flames. Follow precautions outlined on containers or supplied by material manufacturer/ supplier.
   7. Remove damaged materials and replace at no cost to the Owner.

C. Handling: Handle materials in such a manner as to prevent damage and contamination with moisture or foreign matter.

1.08 PROJECT CONDITIONS

A. Do not apply roofing during precipitation. Contractor assumes responsibility for starting installation in the event there is a probability of precipitation occurring during application.

B. Only install as much of the roofing as can be made weathertight each day, including flashing and detail work. Clean and hot air weld seams before leaving the job site that day.

C. Schedule and execute work without exposing the interior building areas to the effects of inclement weather. Protect the building and its contents against risks.

D. Ensure surfaces to receive insulation, membrane or flashings are dry. Provide the necessary equipment to dry the surface prior to application.

E. Secure construction, including equipment and accessories, in such a manner as to preclude wind blow-off and subsequent roof or equipment damage.

F. Install uninterrupted waterstops at the end of each day's work and remove before proceeding with the next day's work. Do not allow waterstops to emit dangerous or unsafe fumes and remain in contact with the finished roof as the installation progresses. Replace contaminated membrane at no cost to the Owner.

G. Arrange work sequence to avoid use of newly constructed roofing as a walking surface or for equipment movement and storage. Where such access is absolutely required, provide necessary protection and barriers to segregate the work area and to prevent damage to adjacent areas. Provide a protection layer of plywood over insulation board for roof areas that receive rooftop traffic during construction.

H. Prior to and during application, remove dirt, debris and dust from surfaces, either by vacuuming, sweeping, blowing with compressed air and/or similar methods.

I. Do not allow contaminants, grease, fats, oils, and solvents to come into contact with the roofing membrane. Report rooftop contamination that is anticipated or that is occurring to the Engineer and membrane manufacturer to determine the corrective steps necessary.

J. If unusual or concealed condition is discovered; stop work and notify Engineer of such condition in writing within 24 hours.

K. Do not install the roofing membrane under the following conditions without consulting the membrane manufacturer's technical department for precautionary steps:
   1. The roof assembly permits interior air to pressurize the membrane underside.
   2. The wall/deck intersection permits air entry into the wall flashing area.

1.09 WARRANTIES

A. Manufacturer's Guarantee: Manufacturer's standard form, non-pro-rated, without monetary limitation or deductibles, in which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks or breaches in the primary roof membrane causing moisture to enter the substrate below (even if visible leaks are not observed inside the facility).
   1. Warranty Period: 20 years from date of Substantial Completion
   2. Warranty to remain in effect for wind speeds up to 72 mph.
   3. Warranties requiring the Owner's signature are not acceptable.
   4. Warranty to include membrane materials, adhesives, related materials and fasteners specified in this section and the following materials specified in other sections as follows:
      a. 07 22 16 - Roof Insulation

B. Contractor's Warranty: Two Year Warranty: Manufacturer's Representative and Contractor's Representative will attend post construction field inspection no earlier than one month prior to the expiration date of the Contractor's Warranty. Submit a written report within seven (7) days of the site visit to the Engineer listing observations, conditions and recommended repairs or remedial action.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. Subject to compliance with requirements herein, provide roof system from a single source. Manufacturers:
   1. Sika Sarnafil
   2. IB Roof Systems
   3. Soprema

2.02 MEMBRANE MATERIALS

A. Membrane: Thermoplastic membrane with fiberglass and/or polyester reinforcement meeting ASTM D4434/D4434M or ASTM D6754/D6754M . Acceptable products:

1. Sika Sarnafil 60-mil G410
2. IB PVC 60-mil Single-Ply Membrane
3. Soprema Sentinel P150

B. Flashing/Stripping Membrane: Non fleece back, thermoplastic membrane reinforced with fiberglass.
1. Sika Sarnafil 60-mil G410
2. IB PVC 60-mil Single-Ply Membrane
3. Soprema Sentinel P150 Membrane

C. Asphalt Resistant Flashing/Stripping Membrane: Thickness to match Flashing/Stripping Membrane, non-fleece back, asphalt resistant, thermoplastic membrane reinforced with fiberglass or polyester. Utilize where flashing membrane is in contact with residual asphaltic materials or as required by the manufacturer.

D. Membrane and Flashing Membrane Color: White

2.03 ADHESIVES

A. Flashing Adhesive: Membrane manufacturer's solvent-based adhesive.
1. Sika Sarnafil Sarnacol 2170
2. IB Vertibond Adhesive 432
3. Soprema Sentinel S Bonding Adhesive

2.04 RELATED MATERIALS

A. Fluid Applied Flashing: Roof system manufacturer's approved, reinforced, PMMA liquid applied flashing.
1. Sika Sarnafil Liquid Flashing
2. Soprema Alsan RS 230 Flash as approved by IB Roof Systems
3. Soprema Alsan RS 230 Flash

B. T-joint Patch: Membrane manufacturer's circular patch welded over T-joints formed by overlapping thick membranes.

C. Corner Flashing: Membrane manufacturer's pre-formed inside and outside flashing corners that are hot air welded to membrane or polymer clad metal base flashings.

D. Coverstrip: 8-inch-wide pre-cut polyester reinforced flashing strip.

E. Pipe Flashing: Membrane manufacturer's pre-formed pipe boot flashing that is hot-air welded to membrane and secured with a stainless-steel draw band and sealant.

F. Termination Bar: Manufacturer's 1/8 inch by 1 inch mill finish extruded aluminum bar with pre-punched slotted holes.

G. Lipped Termination Bar: 3/4 inch wide, extruded mill finished aluminum (6063 T6 Alloy) with 3/16-inch lip and pre-punched oval holes at 6 inches on center.

H. Walkway Pad: Walkway pad by manufacturer of membrane.

I. Polymer Clad Metal: Refer to Section 07 62 00 - Sheet Metal Flashing and Trim.

2.05 SEALANTS AND CLEANERS

A. Sealant: Manufacturer's multi-purpose sealant.

B. Sealant Tape: Minimum 1/2-inch wide, non-skinning, butyl sealant tape.

C. Primary Membrane Cleaner: High-quality solvent cleaner provided by membrane manufacturer for use as a general membrane cleaner.

D. Pre-weld Cleaner: High-quality solvent-based seam cleaner with moderate evaporation rate as recommended and provided by membrane manufacturer.

2.06 FASTENERS

A. Flashing Membrane Termination Screws: #12 corrosion resistant hex or pan head screws with length to penetrate substrate a minimum of 1-1/2 inch.

B. Concrete and Masonry Flashing Membrane Termination Anchors:
   1. 1/4-inch diameter metal-based expansion anchor with stainless steel pin of length to penetrate substrate a minimum of 1-1/2 inch.
   2. Masonry screws approved my membrane manufacturer, 1/4-inch minimum diameter, corrosion resistant, with Phillips flat head. Length to provide minimum 1-1/2-inch embedment into substrate.

C. Wood Deck Fasteners and Plates: #12 corrosion resistant approved by membrane manufacturer of length to penetrate wood deck a minimum of 1 inch with galvalume plates approved for membrane attachment.

PART 3 EXECUTION

3.01 EXAMINATION

A. Inspect the surface of the insulation or substrate prior to installation of the roof membrane.

B. Verify that the substrate is dry, clean, smooth, and free of debris, loose material, oil, grease, or other foreign matter. Remove sharp ridges and other projections and accumulations of bitumen to ensure a smooth surface before roofing.

C. Replace broken, delaminated, wet or damaged insulation boards.

D. Repair deteriorated substrates.

E. Beginning installation means acceptance of prepared substrate.

3.02 PREPARATION

A. Remove, cover or flash using compatible, approved materials substrates containing asphalt. Do not allow PVC to contact substrates containing asphalt materials.

B. Provide necessary protection from adhesive vapors to prevent interaction with foamed plastic insulation.

3.03 ADHERED MEMBRANE INSTALLATION

A. Over the properly installed and prepared substrate, apply membrane adhesive in accordance with the manufacturer's instructions and application rates utilizing equipment as required by the manufacturer.
   1. Do not allow adhesive to skin-over or surface-dry prior to installation of roof membrane.
   2. Comply with the manufacturer's published requirements for adhesive application rates.
   3. Count the amount of pails of adhesive used per area per day to verify conformance to the specified adhesive rate.
   4. Do not apply adhesive in seam areas.
   5. Replace notched squeegees daily or as notches are reduced below 1/4 inch.

B. Place roof membrane into the adhesive in accordance with manufacturer's instructions.

C. Shingle seams with flow of water. Overlap upslope, adjacent rolls 3 inches over previous roll. This process is repeated throughout the roof area.

D. After placement of membrane, press roll into place with the manufacturer's recommended roller by frequent rolling in two directions.

3.04 MEMBRANE TERMINATION

A. Terminate membrane at walls, curbs, and pitch transition as shown in the contract drawings.
   1. Roof Deck: Mechanically terminated using specified fasteners and plates 6 inches on center.
   2. Wood Wall Substrate: Turn membrane up wall 1 inch and mechanically terminate using specified screws 8 inches on center with a termination bar.
   3. Concrete/Masonry Wall Substrate: Turn membrane up wall 1 inch and mechanically terminated using specified anchors 8 inches on center with a termination bar.

B. Terminate membrane at penetrations as shown in the contract drawings.
   1. Fasten membrane 6 inches on center or a minimum of 4 fasteners per penetration into the structural deck using fasteners and plates as approved by the membrane manufacturer for the deck substrate.

C. Extend membrane over roof edge a minimum of 2 inches below the perimeter wood blocking.

D. Provide sealant tape at base of flashing membrane on outside of wall to prevent moisture infiltration.

3.05 FLASHING INSTALLATION

A. General
   1. Install flashings concurrently with the roof membrane as the job progresses.
   2. Temporary flashings are not allowed.
   3. Do not tape seams as temporary measure; hot-air weld seams before the end of each day.

4. Adhere flashings to compatible, dry, smooth, and solvent-resistant surfaces.
5. Where substrates are incompatible with adhesives and PVC materials, remove the incompatible materials and replace with a compatible substrate or install compatible PVC flashing materials.
6. Use caution to ensure adhesive fumes are not drawn into the building.

B. Adhesive for Flashing Membrane
1. Over the properly installed and prepared flashing substrate, apply flashing adhesive according to manufacturer's installation instructions. Apply adhesive in smooth, even coats with no gaps, globs or similar inconsistencies.
2. Press the sheet firmly in place with a hand roller to ensure bond and adhesion.
3. Do not apply adhesive in seam areas that are to be welded.

C. Mechanically terminate flashings a minimum of 8 inches above the finished roofing surface using specified method indicated in the Contract Drawings.

D. Cut and provide hot-air welded corner flashing at interior and exterior corners.

E. Hot-air weld flashings at their joints and at their connections with the roof membrane.

F. Provide additional securement for flashings that exceed 30 inches in height. Consult Manufacturer's Technical Department for securement methods.

G. Seal off Polymer Clad sheet metal incorporated into the roofing system with a hot-air welded stripping ply. Extend stripping ply four inches beyond sheet metal onto roof membrane and fit closely to edge of sheet metal.

H. Soil Pipe/Pipe Penetration:
1. Provide field wrapped pipe penetration flashing or manufacturer's prefabricated pipe boot as shown in detail drawing.
2. Apply aluminum tape to penetration if asphalt contamination is present.
3. Hot-air weld horizontal flashing membrane a minimum of four inches onto the membrane.
4. Adhere vertical flashing membrane adhered to pipe penetration and extend a minimum of 1.5 inches horizontal at the base of penetration. Hot-air weld vertical flashing membrane to horizontal flashing membrane.
5. Install stainless steel draw band and sealant or hot-air weld flashing cap to terminate top edge of pipe flashing.

3.06 HOT-AIR WELDING OF SEAM OVERLAPS

A. General
1. Hot-air weld seams.
a. Minimum 3-inch-wide membrane overlap when automatic machine-welding.
b. Minimum 4-inch-wide membrane overlap when hand-welding, except for certain details.
c. Minimum width of hot-air weld is 1-1/2 inches.
d. Provide wider membrane overlaps or width of welds as required by the roof membrane manufacturer.

2. Provide welding equipment by or approved by the membrane manufacturer. Mechanics intending to use the equipment to have successfully completed a training course provided by a membrane manufacturer's technical representative prior to welding.
3. Clean and dry membrane to be hot-air welded.

B. Hand-Welding
1. Complete hand-welded seams in two stages. Allow hot-air welding equipment to warm up prior to welding.
2. Weld the back edge of the seam with a narrow but continuous weld to prevent loss of hot air during the final welding.
3. Insert nozzle into the seam at a 45-degree angle to the edge of the membrane. Once the proper welding temperature has been reached and the membrane begins to "flow," the hand roller is positioned perpendicular to the nozzle and pressed lightly. For straight seams, the 1-1/2 inch wide nozzle is recommended for use. For corners and compound connections, the 3/4 inch wide nozzle is recommended for use.

C. Machine Welding
1. Machine welded seams are achieved by the use of automatic welding equipment. When using this equipment, follow instructions from the manufacturer and local codes for electric supply, grounding and over current protection. Dedicated circuit house power or a dedicated portable generator is recommended. Do not operate other equipment off the generator.
2. Metal tracks may be used over the deck membrane and under the machine welder to minimize or eliminate wrinkles.

D. Quality Control of Hot-Air Welded Seams
1. Check hot-air welded seams for continuity using a rounded screwdriver. Visible evidence that welding is proceeding correctly is smoke during the welding operation, shiny membrane surfaces, and an uninterrupted flow of dark grey material from the underside of the top membrane. Provide on-site evaluation of welded seams daily and to locations as directed by the Engineer or membrane manufacturer's representative.
2. Take 1-inch-wide cross-section samples of hot-air welded at least three times a day. Correct welds display failure from shearing of the membrane prior to separation of the weld. Patch test cut areas.

3.07 WALKWAY PAD INSTALLATION

A. Check membrane seams that are to be covered by walkway pad with rounded screwdriver and repair deficiencies prior to walkway pad installation.

B. Clean and dry roof membrane to receive walkway pad.

C. Place chalk lines on sheet to indicate location of Walkway.

D. Apply a continuous coat of membrane adhesive to the sheet and the back of walkway pad in accordance with membrane manufacturer's technical requirements and press walkway pad into place with a water-filled, foam-covered lawn roller.

E. Clean the membrane in areas to be welded. Hot-air weld perimeter of the walkway to the roof membrane.

F. Check welds with a rounded screwdriver. Repair deficiencies.

G. Provide walk pads where indicated in Contract Drawings and at the following locations:
   1. Around roof hatches.
   2. At base and top of fixed wall access ladders.
   3. Around HVAC units.
   4. At door access to roof areas.

3.08 TEMPORARY CUT-OFF

A. Install flashings concurrently with the membrane in order to maintain a watertight condition as the work progresses.

B. When a break in the day's work occurs in the central area of the project, install a temporary watertight seal. Provide an 8-inch strip of flashing membrane welded 4 inches to the field membrane. Seal the remaining 4 inches of flashing membrane to the deck or the substrate so that water cannot travel under the membrane. Seal the edge of the membrane with a continuous, heavy, 6-inch width application of pourable sealer. When work resumes, remove the contaminated membrane. Do not reuse these materials.

C. If inclement weather occurs while a temporary water stop is in place, monitor the situation to maintain a watertight condition.

D. If water is allowed to enter under the completed system, replace the affected area.

3.09 CLEANING

A. Ensure trash and debris is removed from the roof daily.

B. Keep metal scraps, nails, screws, and other sharp damaging debris off of the roof membrane surface during construction.

C. Clean off/remove excess adhesive, sealant, stains and residue on the membrane and flashing surfaces.

D. Remove temporary coverings and masking protection from adjacent work areas upon completion.

3.10 PROTECTION

A. Protect the roof from construction related damages during the Work.

B. Replace damaged membrane, flashings, and other membrane components. Repair in accordance with the membrane manufacturers repair instructions to comply with the specified warranty.

END OF SECTION

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes
   1. Sheet metal flashings and trim to provide a permanently watertight condition.

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections, and the following Specification Sections, apply to this Section:
   1. Section 06 10 00 - Rough Carpentry
   2. Section 07 54 00 - Thermoplastic Single Ply Roofing

1.03 REFERENCE STANDARDS

A. ANSI/SPRI/FM 4435/ES-1 - Test Standard for Edge Systems Used with Low Slope Roofing Systems; 2022.

B. ASTM A240/A240M - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications; 2024b.

C. ASTM B32 - Standard Specification for Solder Metal; 2020.

D. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.

E. ASTM C1107/C1107M - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink); 2020.

F. NRCA (RM) - The NRCA Roofing Manual; 2025.

G. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.04 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

C. Shop Drawings: For any transitions and/or terminations not depicted in Contract Drawings.

D. Test Reports: Submit test reports for edge metal indicating resistance of specified wind uplift pressures.

E. Color Charts:
   1. Pre-finished Sheet Metal
   2. Polymer Clad Sheet Metal
   3. Sealants

1.05 MOCK-UPS

A. Provide mock-ups of the following sheet metal components prior to fabrication of the components:
   1. Gutter: Provide mock-up of gutter, gutter bracket and gutter hanger. Include one lap in gutter section.
   2. Metal Edge and Fascia Cover: Provide minimum 10-foot length of gravel stop/metal edge and fascia cover. Include at least one lap of each component.

1.06 QUALITY ASSURANCE

A. Install in accordance with the Contract Drawings.

B. Ensure work is free of leaks.

C. Provide metal edge and coping fabricated and tested in accordance with ANSI/SPRI/FM 4435/ES-1 to resist the specified wind uplift pressures.
   1. Fabricate metal edge and coping as shown in Contract Drawings and following NRCA (RM) tested details.

D. Provide sheet metal flashing and trim in accordance with SMACNA (ASMM).

E. Provide first-class workmanship. Assemble and secure sheet metal work in accordance with these specifications, roof system manufacturer's requirements and referenced standards.

1.07 DELIVERY, STORAGE AND HANDLING

A. Delivery: Deliver materials in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.

B. Storage: Store materials within areas designated by the Owner. Ensure materials remain dry, covered and not in contact with the ground.

C. Handling: Handle material in such manner as to preclude damage and contamination with moisture or foreign matter.

1.08 PROJECT CONDITIONS

A. Environmental: Protect building and its components from the elements.

B. Coordination and Scheduling: Coordinate phases of work to allow continuity of work without delays.

1.09 WARRANTY

A. Provide pre-finished sheet metal manufacturer's thirty (30) year finish warranty from the date of substantial completion.

PART 2 PRODUCTS

2.01 PRIMARY SHEET METAL

A. Material: Pre-finished Galvalume
   1. 24-gauge, galvalume coated steel meeting or exceeding AZ50 per ASTM A792. Manufacturer's smooth finish, pre-finished color coatings consisting of 70% Kynar 500 fluorocarbon (Polyvinylidene Fluoride PVF2) coating over a urethane primer on the finish side, with primer and a wash coat on the reverse. Measurements per NCCA Technical Bulletin II-4 or ASTM D1005. Protect the finish during fabrication and installation with a strippable plastic film. Manufacturer's standard color selected by Owner.

B. Components:
   1. Slip Flashing
   2. Receiver Flashing
   3. Counterflashing
   4. Fascia Cover
   5. Crimped On Metal Edge
   6. Gutter
   7. Downspouts
   8. Continuous Cleat (use one gauge thicker than primary sheet metal): 22-gauge, galvalume coated steel

2.02 ALUMINUM

A. ASTM B209 Aluminum Alloy Sheet and Plate, alloy and temper 3003-H14:
   1. Downspout Hanger: 1/16 inch x 1 inch

2.03 STAINLESS STEEL FLASHINGS

A. 26-gauge, Type 304, 2B as tested in accordance with ASTM A240/A240M.
   1. Multiple Pipe Enclosure Components
      a. Pipe Enclosure Flashing
      b. Closure Cap
   2. Equipment Support Curb Cover

B. Compression Bar: 1/4-inch x 1.5 inches, stainless steel, flat bar.

2.04 POLYMER CLAD METAL

A. Heat-weldable, 24 gauge, AISI G90 galvanized steel sheet with an unsupported 20-mil thermoplastic membrane coating to match the flashing membrane composition laminated on one side, manufactured by, and included in the roof membrane manufacturer's warranty. Color selected by Owner.

1. Flange/Sleeve
2. Pitch Pan
3. Drip Edge
4. Polymer Clad Base Flashing

2.05 FASTENERS

A. Roofing Nails: Minimum 12-gauge stainless steel ring shank roofing nails with diamond point, minimum 3/8 inch diameter head and length as required to penetrate substrate a minimum of 1-1/4 inches.

B. Screws:
1. Sheet metal to wood attachment (exposed): #12 stainless steel, 5/16 HWH with length to penetrate substrate a minimum of 1-1/2 inches. Provide with bonded EPDM washer or washer specified below. Factory painted heads to match the sheet metal color.
2. Sheet metal to wood attachment (concealed): #10 stainless steel, low profile pancake head with length to penetrate substrate a minimum of 1-1/2 inches.
3. Sheet metal to sheet metal attachment (exposed): 1/4 inch x 7/8 inch carbon steel, self-drilling point, self-tapping, zinc alloy hex head screws with bonded EPDM tubular washer under head of fastener; screw heads to match color of wall panel by means of factory applied coating. Factory painted heads to match the sheet metal color.
4. Sheet metal to light gauge steel attachment (concealed): #14-13 DP1 stainless-steel low-profile pancake head of length as required for three threads to penetrate metal substrate or min. 1 inch penetration though wood substrates.

C. Concrete and Masonry Anchors: 1/4 inch diameter metal-based expansion anchor with stainless steel pin of length to penetrate substrate a minimum of 1-1/2 inches. Factory painted heads to match the sheet metal color.

D. Washers: Stainless steel with neoprene gasket backing.
1. 9/16 inch diameter for use with #12 screws
2. 5/8 inch diameter for use with 1/4 inch diameter concrete and masonry anchors.

E. Rivets: #44 stainless steel rivets with stainless steel mandrel and factory painted head to match adjacent sheet metal. Length to properly fasten particular sheet metal components.

2.06 RELATED MATERIALS

A. Sealants:
1. Silicone Sealant: One-component, non-sag, neutral cure, low-modulus, UV resistant, high performance silicone sealant meeting ASTM C920, Type S, Grade NS, Class 100/50, Use NT, M, G, A or O. Color to match sheet metal color selected by Owner. Acceptable Manufacturers include:
   a. Dow 790 Building Sealant
   b. Pecora 890 NST Silicone
   c. Sikasil-WS 290
   d. Triangle Fastener Corporation Ultra 1000
2. Sealant Tape: Minimum 1/2 inch wide, non-skinning, butyl sealant tape.

3. Butyl Sealant: Gun grade, non-skinning, non-hardening, flexible blend of butyl rubber and polyisobutylene sealant.

B. Aluminum Tape: Pressure-sensitive, 2 inch wide aluminum tape used as a separation layer between small areas of asphalt contamination and the membrane and as bond breaker under the metal edge cover plates.

C. Solder: 80-20 lead-TIN alloy conforming to ASTM B32.

D. Flux: Muriatic acid killed with zinc or an accepted brand of commercial soldering flux designed for use with 80-20 solder.

E. Non-Shrink Grout: High early strength, non-rusting non-shrink grout conforming to ASTM C1107/C1107M Grade C (modified for rapid-setting grout):
1. ThoRoc (ChemRex) 747 Rapid Setting Grout
2. US Mix Multi-Purpose Non-Shrink Grout
3. Sika Sikagrout 212

F. Pourable Sealer: One-part, moisture curing, pourable, polyether sealant designed for use in pitch pans.

PART 3 EXECUTION

3.01 EXAMINATION

A. Coordinate with other work for correct sequencing of items.

B. Ensure substrates are installed, secured and modified to accommodate sheet metal flashings.

C. Report deficiencies associated with the sheet metal substrates to Engineer before beginning sheet metal work. Correct deficiencies before installing sheet metal flashings.

3.02 INSTALLATION

A. General:
1. Lock and seal joints of pre-finished sheet metal.
2. Solder joints of stainless steel flashings.
3. Provide for thermal movement (expansion and contraction) of sheet metal.
4. Where dissimilar metals contact, prevent galvanic action by means of heavy coat of asphalt primer or separate with sheet metal underlayment.
5. Prime sheet metal surfaces (top and bottom) to receive bituminous materials. Allow primer to dry before application of bituminous materials.
6. Install metal flanges on top of membrane, adhere and fasten as indicated in detail drawings, specified herein, and in accordance with membrane manufacturer's requirements.
7. Provide uniform sheet metal sections with corners, joints and angles mitered, sealed and secured.
8. Hem (return) exposed edges for strength and appearance.
9. Fit sheet metal close and neat.

10. Provide cleats or stiffeners and other reinforcements to make sections rigid and substantial.
11. Fabricate, support, cleat, fasten and join sheet metal to prevent warping, "oil canning", and buckling.

B. Sheet Metal Laps (unless otherwise indicated):
1. Notch and lap ends of adjoining sheet metal sections not less than 4 inches; apply sealant tape or two bead of butyl sealant between sections.
2. Lap miters at corners a minimum of 1 inch and apply sealant between laps. Rivet at 2 inches on center.

C. Polymer Clad Sheet Metal:
1. Secure flanges of polymer clad sheet metal into roof deck at 12 inches on center.
2. Sheet Metal Laps:
   a. Leave a 1/4 inch opening between sheet metal sections.
   b. Center aluminum tape over joint opening.
   c. Hot-air weld 4-inch wide strip of stripping membrane over joint.
   d. At inside and outside corners, lap miters a minimum of 1 inch and rivet at 2 inches on center; strip in with 4-inch wide strip of stripping membrane over joint.

D. Fasteners:
1. Size and type required.
2. Fasteners compatible with materials being joined.
3. Exposed Fasteners:
   a. Install screws with 5/16-inch predrilled, oversized holes.
   b. Install Concrete and Masonry Anchors with 11/32-inch predrilled, oversized holes.
   c. Exposed horizontal surface fasteners are not acceptable.

E. Pitch Pan:
1. Fabricate pitch pan as shown in detail drawings. Size pitch pan minimum 2 inches larger than the penetration. Provide a 4-inch minimum flange and double walls with minimum depth of 4 inches.
2. Provide hot-air welded stripping membrane over seams of pitch pan.
3. Strip-in flange of pitch pan as indicated in the Contract Drawings.
4. Install 2 inch wide aluminum tape around pitch pan extending 1/2 inch above top edge.
5. Fill pitch pan with non-shrink grout to a depth of 2 inches from the top of the tape.
6. Fill pitch pan with pourable sealer to the top of the tape. Slope to shed water.

F. Multiple Pipe Penetration:
1. Fabricated pipe enclosure flashing and closure cap as shown in detail drawings. Refer to SMACNA (ASMM) Figure 8-8B or 8-9A depending upon direction of pipes.
2. Secure pipe enclosure flashing and cap as indicated in detail drawings.
3. Clean and solder seams of enclosure and cap.

G. Slip Flashing:
1. Fabricate at curbs as shown in detail drawings in 10 foot lengths.

2. Extend a minimum of 2 inches below base flashing termination and fit tightly against curb.
3. Secure at 12 inches on center of a minimum of two fasteners per side of the curb. If slip flashing is located within Corner (Zone 3) secure at 6 inches on center maximum.

H. Equipment Support:
1. Fabricate Equipment Support Curb Cover at curbs as shown in detail drawings in one continuous piece of sheet metal.
2. Secure at eighteen inches on center.
3. Provide soldered end caps.

I. Receiver Flashing:
1. Fabricate receiver flashing as shown in detail drawings in 10 foot lengths.
2. Attachment:
   a. Install receiver flashing into saw-cut reglet and secure with soft metal wedges at 18 inches on center set deep into joint. If receiver flashing is located within Corner (Zone 3) secure at 9 inches on center maximum.
   b. Install receiver flashing surface mounted at 12 inches on center. If receiver flashing is located within Corner (Zone 3) secure at 6 inches on center maximum.
3. Install sealant properly tooled to ensure adhesion and slope to shed water.
4. Cover soft metal wedges with sealant.

J. Counterflashing:
1. Fabricate counterflashing as shown in detail drawings in 10 foot lengths.
2. Install counterflashing as indicated in detail drawings and secure to receiver flashing 12 inches on center. If counter flashing is located within Corner (Zone 3) secure at 6 inches on center maximum.
3. Stagger receiver anchors with counter flashing fasteners.
4. Extend counter flashing a minimum of 1.5 inches below base flashing termination.

K. Fascia Cover:
1. Provide fascia cover secured to wood blocking 12 inches on center where indicated in detail drawings.
2. Lock fascia cover onto continuous cleat if present and hand tong metal edge onto continuous cleat.

L. Crimped On Metal Edge:
1. Fabricate metal edge and continuous cleat as shown in detail drawings in 8 foot or 10 foot lengths.
2. Install a continuous cleat as indicated in detail drawings fastened to substrate 6 inches on center in vertical face and secure flange of metal edge to wood blocking 3 inches on center staggered with first row 1 inch from edge of flange and second row offset 1/2 inch from first row. Locate fasteners no greater than 1-3/4 inch from the break at the bottom hem.
3. Strip flange of continuous cleat as specified.
4. Lock metal edge onto continuous cleat crimp as shown.
5. Hand tong metal edge onto continuous cleat.
6. Metal Edge Joints:

a. Leave a 1/4 inch opening between metal edge sections.
b. Center 6-inch minimum width cover plate over or back-up plate under joint opening.
c. Set cover plate in butyl sealant tape on each side of joint.

M. Drip Edge:
1. Fabricate drip edge as shown in detail drawings in 10 foot lengths. Refer to SMACNA (ASMM) Figure 2-1 except for continuous cleat dimensions as shown in Contract Drawings.
2. Secure flange of drip edge to wood blocking 3 inches on center staggered with first row 1 inch from edge of flange and second row offset 1/2 inch from first row.
3. Strip flange of metal edge as specified.
4. Hand tong metal edge onto continuous cleat.
5. Drip Edge Joints:
a. Leave a 1/4 inch opening between metal edge sections. Install two roofing nails in the end of the flange, and one roofing nail in the end of the vertical face of each metal edge section.
b. Center aluminum tape over joint opening (flange and face).
c. Hot-air weld 4-inch wide strip of stripping membrane over joint.
d. Strip in flange of metal edge as described above.
e. Center 6-inch wide cover plate over joint locking onto notched drip edges of metal edge sections. Refer to SMACNA (ASMM) Figure 2-5A, and Figure 2-5, Detail 1.
f. Strip flange of cover plate with hot-air welded flashing membrane. Extend flashing membrane 2 inches beyond the cover plate flange on 3 interior sides.

N. Gutters:
1. Fabricate to profile shown in Contract Drawings. Refer to SMACNA (ASMM) Figure 1.2 Style D.
2. Gutters continuous, roll formed from coil stock on site or formed in 10 foot lengths.
a. Lap joints in gutters a minimum of 1 inch, riveted 1 inch on center. Install sealant tape between gutter sections and sealant at exposed inside edge and on rivets. Lap joints in the direction of water flow.
3. Provide butt type expansion joints in gutters at spacing appropriate for the type material used to fabricate gutters. Refer to SMACNA Architectural Sheet Metal Manual Figure 1-7. Maximum length of gutter between expansion joints is 50 feet.
4. Provide downspout outlet tubes in downspout locations. Refer to SMACNA (ASMM) Figure 1-33B and Detail 1. Tab gutter outlet tubes a minimum of 1 inch, set in a bead of sealant and secure to gutter with a minimum of two rivets per tab.
5. Fabricate gutter with leading edge 1 inch below the back edge as shown in detail drawing.
6. Hang gutters level.

O. Downspouts:

1. Fabricate downspouts in 10 foot lengths. Refer to SMACNA (ASMM) Figure 1-32B.
2. Paint hangers with air dried Kynar painted or powder coat to match sheet metal finish of downspouts.
3. Secure downspout to the structure with two-piece hangers spaced no more than 8 foot apart with a minimum of two hangers per downspout with a hanger located within 12 inches from bottom. Refer to SMACNA (ASMM) Figure 1-35H.
4. Fashion downspouts to run back to (at overhangs) and be parallel to the facility walls.
5. Where downspouts discharge onto lower adjacent roof areas, provide splash pans at discharge as specified below. Provide discharge elbow at the base of downspout where it kicks out onto splash pan.
6. Tie downspouts into below grade storm drainage system if present.
   a. Provide square to round transition to tie into below grade system as necessary.
7. If below grade storm drainage system is not present, kick-out downspouts above grade onto concrete splash blocks. Fill in soil to provide slope away from building.

3.03 CLEANING AND PROTECTION

A. Clean sheet metal work of asphalt, flux, scrapes and dust.

B. Replace sheet metal components with scratches through the metal finish.

END OF SECTION

SECTION 07 72 13

MANUFACTURED ROOF CURBS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Electrical Disconnect Supports

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections, and the following Specification Sections, apply to this Section:
   1. Section 07 22 16 - Roof Insulation
   2. Section 07 54 00 - Thermoplastic Single Ply Roofing
   3. Section 07 62 00 - Sheet Metal Flashing and Trim

1.03 REFERENCE STANDARDS

A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.

1.04 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

C. Shop Drawings: Dimensioned drawings showing overall layout details, jointing, connections, and fasteners. Show adjacent construction including roof deck, roofing system, and equipment.

1.05 QUALITY ASSURANCE

A. Manufacturer:
   1. Able to document minimum 10 years continuous experience designing, manufacturing, and supplying work of this Section.
   2. Maintain engineering and design capabilities to furnish equipment supports.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver on pallets or protective packaging with manufacturer's identifying labels legible and intact.

B. Store on pallets above water, mud, and dirt, protected from soiling and damage.

C. Handle to prevent permanent warping and racking of frame.

1.07 WARRANTY

A. Manufacturer's standard 5-year limited Warranty against defects in labor and workmanship.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Rooftop Support Systems

B. Miro Industries

C. Engineers accepted equivalent

2.02 MATERIALS

A. Electrical Disconnect Supports
   1. Frames:
      a. Material: ASTM A653/A653M G90 hot-dipped Galvanized steel, minimum 18-gauge.
      b. Polycarbonate/polypropylene base, UV Stable, rigid, non-roof penetrating, adjustable height support for disconnect boxes.
      c. Internally reinforced with Galvanized 1 inch by 1 inch by 12-gauge angles for frames exceeding 3 feet in length. Reinforce internal bulkhead at equipment curbs to support lateral loads.
      d. Supports will be sized to fit the appropriate weight and height of application.

B. Accessories
   1. Screws: Fasteners as instructed by manufacturer for pre-engineered metal buildings.
   2. Butyl Tape and Tube Caulk: For sealing roof panel to roof curb for pre-engineered metal buildings.
   3. Framing as required for standing seam metal roof panels.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify conditions ready to receive work of this Section. Do no work until unsatisfactory conditions are corrected. Beginning work constitutes acceptance of existing conditions.

3.02 INSTALLATION

A. Install in accordance with Contract Document provisions and manufacturer's instructions. Where in conflict, assume requirements that are more stringent, and verify with Engineer before beginning work.

B. Weld, bolt, or screw roof curbs and expansion joint curbs as instructed by manufacturer, as shown on accepted shop drawings, and as accepted by Architect.

C. Equipment Supports: Span minimum two structural members.

D. Do not apply load to cantilever exceeding 2-foot length, for equipment supports.

E. Provide additional membrane ply beneath each support as required by the membrane manufacturer.

3.03 ADJUSTING

A. Replace or repair installations not conforming to specified requirements including installations out of level and out of plumb.

3.04 CLEANING

A. Leave installation clean, free of debris and residue resulting from work of this Section.

END OF SECTION

SECTION 09 91 13

EXTERIOR PAINT

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Prepare substrates, prime and paint in accordance with Manufacturer's instructions for building components specified. Substrates included in the Work are as follows:
   a. roof hatch
   b. rusted equipment or stands

1.02 RELATED DOCUMENTS

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

1.03 REFERENCE STANDARDS

A. NACE No. 2 - Joint Surface Preparation Standard Near-White Metal Blast Cleaning; 1994 (Reaffirmed 2006).

B. NACE No. 3 - Joint Surface Preparation Standard Commercial Blast Cleaning; 1994 (Reaffirmed 2006).

C. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).

D. SSPC-SP 2 - Hand Tool Cleaning; 2018.

E. SSPC-SP 3 - Power Tool Cleaning; 2018.

F. SSPC-SP 5 - White Metal Blast Cleaning; 2007.

G. SSPC-SP 6 - Commercial Blast Cleaning; 2007.

H. SSPC-SP 7 - Brush-Off Blast Cleaning; 2007.

I. SSPC-SP 10 - Near-White Metal Wet Abrasive Blast Cleaning; 2015.

J. SSPC-SP 11 - Power-Tool Cleaning to Bare Metal; 2020.

1.04 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

C. Samples: Submit color chart that represents Manufacture's color samples available for Owner's selection.

D. Mockup: Submit mockup of paint system before starting work as required by Owner for color selection/acceptance.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver Manufacturer's unopened containers to the work site labeled with the following list of information:
   1. Product name, type (description)
   2. Application & use instructions
   3. Surface preparation
   4. VOC content
   5. Environmental issues
   6. Batch date
   7. Color number

B. Storage: Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction. Store materials in an area that is within the acceptable temperature range, per Manufacturer's instructions. Protect from freezing.

C. Handling: Maintain a clean, dry storage area, to prevent contamination or damage to the coatings.

D. Provide fire safety and prevention requirements for materials.

1.06 PROJECT CONDITIONS

A. Ensure or maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by Manufacturer for optimum results. Do not apply coatings under environmental conditions outside Manufacturer's absolute limits.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers:
   1. The Sherwin-Williams Company
   2. Duron, Inc.
   3. PPG Paints

B. Manufacturer's exterior primer and paint system for optimum performance for exposed, exterior building type, compatible with the following substrate surfaces.
   1. Galvanized Metal
   2. Structural Steel

2.02 MATERIALS

A. Paints and Coatings: Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with Manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in Manufacturer's product instructions.

B. Primers: Where the Manufacturer offers options on primers for a particular substrate, use primer categorized for optimum performance by the Manufacturer.

2.03 ACCESSORIES:

A. Coating Application Accessories: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required per Manufactures printed requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin application of coatings until substrates have been properly prepared. Notify Engineer of unsatisfactory conditions before proceeding.

B. Proceed with work only after conditions have been corrected otherwise application of coatings is considered acceptance of surface conditions.

3.02 PREPARATION

A. Consult Manufacturer to ensure proper product selection, surface preparation, and application for optimum coating performance. Provide proper product selection, surface preparation, and application.

B. Ensure surface is dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint, coatings, or other contamination to ensure good adhesion.

C. Remove mildew before painting by washing with a solution of 1-part liquid household bleach and 3 parts of warm water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry 48 hours before painting.

D. Do not paint after a rain, during foggy weather, when rain is predicted, or when the temperature is below 50°F, unless products are designed specifically for these conditions. Follow Manufacturers printed instructions.

E. Methods:

1. Galvanized Metal: Clean using detergent and water or a degreasing cleaner to remove greases and oils. Apply a test area, priming as required. Allow the coating to dry at least one week before testing. If adhesion is poor, Brush Blast to remove these treatments.
2. Steel: Structural, Plate, etc.: Clean by one or more of the ten surface preparations described below:

a. SSPC-SP 1, Solvent Cleaning: Solvent cleaning is a method for removing visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants. Solvent cleaning does not remove rust or mill scale. Change rags and cleaning solution frequently so that deposits of oil and grease are not spread over additional areas in the cleaning process. Be sure to allow adequate ventilation.

b. SSPC-SP 2, Hand Tool Cleaning: Hand Tool Cleaning removes loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Before hand tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1.

c. SSPC-SP 3, Power Tool Cleaning: Power Tool Cleaning removes loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Before power tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1.

d. SSPC-SP 5, White Metal Blast Cleaning: A White Metal Blast Cleaned surface, when viewed without magnification, free of visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter. Before blast cleaning, remove visible deposits of oil or grease by the methods specified in SSPC-SP1 or other agreed upon methods.

e. SSPC-SP 6 or NACE No. 3, Commercial Blast Cleaning: A Commercial Blast Cleaned surface, when viewed without magnification, free of visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except for staining. Limit staining to no more than 33 percent of each square inch of surface area and can consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or stains of previously applied paint. Before blast cleaning, remove visible deposits of oil or grease by the methods specified in SSPC-SP1 or other agreed upon methods.

f. SSPC-SP 7: A Brush-Off Blast Cleaned surface, when viewed without magnification, free of visible oil, grease, dirt, dust, loose mill scale, loose rust, and loose paint. Tightly adherent mill scale, rust, and paint can remain on the surface. Before blast cleaning, remove visible deposits of oil or grease by the methods specified in SSPC-SP 1 or other agreed upon methods.

g. SSPC-SP 10 or NACE No. 2: A Near-White Blast Cleaned surface, when viewed without magnification, free of visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except for staining. Limit staining to no more than 5 percent of each square inch of surface area and can consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or stains of previously applied paint. Before blast cleaning, remove visible deposits of oil or grease by the methods specified in SSPC-SP1 or other agreed upon methods. High- and Ultra-High-Pressure Water Jetting for Steel and Other Hard Materials, SSPC-SP12 or NACE 5: This standard provides requirements for the use of high- and ultra-high pressure water jetting to achieve various degrees of surface cleanliness. This standard is limited in scope to the use of water only without the addition of solid particles in the stream.

h. SSPC-SP 11: Metallic surfaces that are prepared according to this specification, when viewed without magnification, free of visible oil, grease, dirt, dust, mill scale, rust, paint, oxide corrosion products, and other foreign matter. Slight residues of rust and paint can be left in the lower portions of pits if the original surface is pitted. Prior to power tool surface preparation, remove visible deposits of oil or grease by the methods specified in SSPC-SP1, Solvent Cleaning, or other agreed upon methods.

i. Water Blasting, NACE Standard RP-01-72: Removal of oil grease dirt, loose rust, loose mill scale, and loose paint by water at pressures of 2,000 to 2,500 psi at a flow of 4 to 14 gallons per minute.

3.03 INSTALLATION

A. Apply coatings and materials in accordance with Manufacturer printed recommendations. Apply a no less than a single coat of primer, and two coats of paint. Thickness determined by Manufacturer's printed requirements for optimum or best performance.

B. Do not apply coatings to wet or damp surfaces, during periods of fog, or at or below the dew point temperature.

C. Apply coatings using methods and application tools recommended by Manufacturer.

D. Uniformly apply coatings without runs, drips, or sags, without brush marks, and with consistent sheen.

E. Apply coatings at spreading rate required to achieve the Manufacturers recommended dry film thickness.

F. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.

G. Time between primer and coats as required by Manufacturer's printed requirements.

3.04 PROTECTION

A. Protect finished coatings from damage until completion of project.

B. Touch-up damaged coatings after substantial completion, following manufactures recommendation for touch up or repair of damaged coatings. Repair defects that hinder the performance of the coatings.

3.05 CLEANING

A. Clean-up and remove spills, and coatings on adjacent substrates to the Owner’s satisfaction.

B. Dispose of containers and waste in a legal manner.

END OF SECTION

SECTION 23 05 01

COMMON HVAC REQUIREMENTS FOR REROOFING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Mechanical work required to accommodate the reroofing project.
   2. Disconnect, secure, and temporary lift or rig rooftop units (RTUs), exhaust fans, and condensing units.
   3. Extension, reinforcement, or modification of existing curbs, equipment supports, and duct penetrations.
   4. Re-installation, alignment, and reconnection of associated HVAC equipment, piping, utilities, gas lines, and automated controls.
   5. Testing, adjusting, and balancing (TAB) of altered or re-installed equipment to the original operating parameters.

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections, and the following Specification Sections, apply to this Section:
   1. Section 06 10 00 - Rough Carpentry
   2. Section 07 54 00 - Thermoplastic Single Ply Roofing

1.03 REFERENCE STANDARDS

A. ASTM B280 - Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service; 2023.

1.04 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

B. Shop Drawings: Detail structural methods for lifting equipment, temporary support framing, and utility extension routing.

C. Refrigerant Recovery Logs: Submit records of refrigerant volume recovered and the disposal or reuse of the refrigerant, certified by a technician holding EPA Section 608 Certification.

D. Field Quality Control Reports: Submit leak test, pressure test, and system startup logs.

1.05 QUALITY ASSURANCE

A. Contractor Qualifications: Engage a mechanical subcontractor holding a current state mechanical contractor license.

B. Technician Certification: Engage field technicians holding current EPA Section 608 Certification for work involving refrigerants.

C. Coordination Meeting: Conduct a pre-roofing conference with the General Contractor, Roofing Contractor, Mechanical Contractor, and Owner's representative. Establish communication lines and utility shutdown schedules at the conference.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Handling: Handle equipment in accordance with the manufacturer's instructions. Protect materials and finishes during handling and installation to prevent damage. Follow all safety warnings posted by the manufacturer.

PART 2 PRODUCTS

2.01 ROOF CURB EXTENSIONS

A. Material: Minimum 14-gauge galvanized steel, factory-fabricated to match existing curb configuration and dimensions.

B. Insulation: Factory-insulated with 1-inch-thick, high-density rigid fiberglass board insulation.

C. Height: Provide extensions with a finished height of 8 inches minimum above the finished surface of the roof system.

D. Hardware: Provide factory-fabricated pressure-treated wood nailers attached to the top flange of the curb extension.

2.02 MECHANICAL PIPING AND ACCESSORIES

A. Refrigerant Piping: ASTM B280 copper tube, Type ACR, with long-radius wrought-copper fittings and silver-brazed connections.

B. Gas Piping: Schedule 40 black steel pipe with malleable iron threaded fittings rated for outdoor exposure.

C. Piping Insulation: Outdoor-rated, closed-cell elastomeric flexible foam insulation, 1-inch-thick minimum, with a weather-resistant, ultraviolet-resistant protective jacket.

2.03 EQUIPMENT SUPPORTS

A. Refer to Specification Section 23 05 29 – Rooftop Hangers and Supports.

PART 3 EXECUTION

3.01 EXAMINATION AND PREPARATION

A. Observe HVAC equipment on the roof before demolition. Document and photograph damage and operational deficiencies.

B. Utility Shutdowns: Coordinate building power, building automation controls, and gas line shutdowns with the facility operations team 48 hours minimum in advance.

C. Refrigerant Management: Recover and pump down system refrigerant into certified storage cylinders in accordance with clean air regulations before moving equipment.

3.02 MECHANICAL DISCONNECTION AND LIFTING

A. Disconnections: Disconnect electrical lines, control wiring, gas piping, refrigerant lines, and exterior condensate drains.

B. Capping: Cap open ducts, line sets, and exhaust vents upon disconnection using plastic or metal caps to prevent dirt, water, and roofing debris from entering the systems.

C. Equipment Lifting: Lift units from curbs using cranes or rigging systems engineered for the equipment weight. Store equipment in a designated on-site area or support equipment on temporary structural framing. Do not rest equipment on the roof membrane.

3.03 CURB MODIFICATIONS

A. Curb Extension Installation: Fasten curb extensions to existing structural curbs to accommodate the added thickness of the roof insulation boards.

B. Flashing Coordination: Coordinate with the roofing installation to lap roof membrane flashings beneath equipment curb counter flashings and hoods.

3.04 RE-INSTALLATION AND RECONNECTION

A. Equipment Resetting: Lower HVAC units onto the extended and flashed curbs. Replace neoprene isolation gaskets at the top of the curb before lowering the units.

B. Utility Reconnection: Reconnect gas piping, electrical power lines, and control wiring using flexible connections where required to accommodate the raised curb heights.

C. Refrigerant Lines: Re-braze refrigerant line sets while purging the lines with dry nitrogen to prevent oxidation scaling.

3.05 FIELD QUALITY CONTROL

A. Pressure Testing: Pressure test reconnected copper refrigerant lines with dry nitrogen at 150 percent of the system operating pressure for 4 hours minimum.

B. Evacuation: Evacuate reconnected refrigerant lines to a vacuum of 500 microns or lower before opening system service valves.

C. Gas Leak Testing: Test reconnected gas line joints using a soap-bubble solution or calibrated electronic gas leak detector.

D. Operational Testing: Start up HVAC equipment. Verify fan rotation direction, temperature splits, and control responsiveness before project closeout.

END OF SECTION

SECTION 23 05 29

ROOFTOP HANGERS AND SUPPORTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Provide portable, non-penetrating, rooftop support system for:
      a. Piping, Conduits and Cables

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section, including but not limited to:
   1. Section 07 54 00 - Thermoplastic Single Ply Roofing

1.03 REFERENCE STANDARDS

A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.

B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.

C. ASTM D1929 - Standard Test Method for Determining Ignition Temperature of Plastics; 2023.

D. MSS SP-58 - Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation; 2018, with Amendment (2019).

1.04 SYSTEM DESCRIPTION

A. Support piping on roof with an engineered prefabricated system designed for installation without roof penetrations, flashing or damage to the roofing material. System consists of bases, made of high-density polypropylene plastics with UV Protection, a HDG structural steel frame and suitable pipe hangers for the application with electro-plated nuts, threaded rods and washers. Custom designed to fit piping and conduit and the conditions of service.

B. Provide Seismic and High Wind applications where necessary for categories listed above.

1.05 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

B. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

C. Shop Drawings: Show installation layout, sizes of units, and details of installation.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Specializing in manufacturing pipe support systems, with a minimum of eight years of documented experience.

B. Installer Qualifications: Approved by manufacturer and with not less than five years of experience in installation of piping support systems.

C. Pre-Installation Meeting:
   1. Attendees: Owner, Engineer, Contractor, Roofing Contractor, Mechanical Contractor, Electrical Contractor.
   2. Purpose of meeting is to describe in detail the installation process and to establish agreement, coordination, and responsibilities.
   3. Prepare detailed meeting report and distribute copies to the Engineer and attendees.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to project site in manufacturer's original packaging, marked with manufacturer's name, product model names and catalog numbers, identification numbers, and other related information.

B. Store materials under cover until needed for installation.

1.08 WARRANTY

A. Warranty: 5-year limited warranty to repair or replace products that are structurally defective in material or workmanship.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Whenever a particular make of material, trade name and/or manufacturer's name is specified herein, it is indicative of the minimum standard of quality and performance characteristics required. Follow specific manufacturer's requirements in regard to preparation, application, etc. if differing from the specified requirements.
   1. Manufacturers:
      a. Portable Pipe Hangers (PPH)
      b. OMG Pipeguard
      c. nVent Caddy
      d. Miro Industries

B. Specifications and Drawings are based on manufacturer's proprietary literature from PPH. Comply with minimum levels of material, color selection, and detailing indicated in Specifications and Drawings required by other manufacturers. Engineer will be sole judge of acceptance of substitutions.

2.02 APPLICATIONS

A. Support pipes, conduit, cable trays, and ducts minimum of 6 inches above roof surface.
   1. Support Spacing: Maximum of 6 feet or as required by manufacturer.
   2. For Electrical and Gas Lines 2-1/2 inches in Diameter or Less, up to 10 inches above roof: Portable Pipe Hanger Model number: SS8
   3. For Electrical and Gas Lines 3-1/2 inches in Diameter or less, up to 16 inches above roof: Portable Pipe Hanger Model number PP10.
   4. For Gas Lines 4 to 6 inches in Diameter, up to 12 inches above roof: Portable Pipe Hanger Model number RB18.
   5. For single Electrical and Gas Lines 3 to 8 inches in Diameter: Portable Pipe Hanger Model number PS 1-2.
   6. For Multiple Lines: Portable Pipe Hanger Model number PSE custom.
   7. Accessories for PSE Custom and Other Applications when required
      a. On sloped roof surfaces where slope exceeds 1/4 inch per foot: Provide base with swivel for slope adjustment.
      b. Un-insulated Piping: Roller support or clevis hanger.
      c. Insulated Piping: Band hanger supported from horizontal channel or clevis hanger with Insulation Protection Shield.
      d. Conduit: Band hanger supported from horizontal channel.
      e. Bracing required when using base with swivel, when pipe exceeds 24 inches above roof, or when thermal expansion of pipe is great.

B. Attachment of Base to Roof Surface when required for Seismic and High Wind Application: No attachment to roof surface.

2.03 MATERIALS

A. Portable Support System: Engineered, portable system specifically designed for installation without the need for roof penetrations or flashings, and without causing damage to the roofing membrane.
   1. Design system using high density / high impact polypropylene bases with carbon black, anti-oxidants for UV protection, and steel framing for support is 1-5/8 inch B22TH or 1-7/8 inch BTS22TH
   2. Custom design system to fit piping, conduits, equipment, or walkways for conditions of service and loading.
   3. Piping Supports: Provide suitable hangers and supports.

B. Bases: Injection molded high density/high impact polypropylene with UV-inhibitors and antioxidants, conforming to the following:
   1. Moisture Content: Negligible.
   2. Shrinkage/Swelling Due to Moisture: Negligible.
   3. Density: 55.8 lb/cu ft.
   4. Insect Resistance: No known insect damage potential.

5. Chemical Resistance (oil, brake fluid, gasoline, diesel, antifreeze, battery acid, and sulfuric acid) No visual or physical change apparent.
6. Flammability: No ignition after 10 minutes, 25 kW/m, when tested in accordance with ASTM D1929.
7. Sized as required by loading conditions and as indicated on the drawings.
8. Shop fabricated with inserts for square tubing or threaded rods as required.
9. Color: Integral black color as molded.
10. Bases for Mechanical Attachment: Sealant chamber around penetration point, with injection port for sealing after fastening; beveled lip for sealant bead around diameter.
11. Do not use bases containing carbonated plastics, press molded recycled rubber and plastics, steel, stainless steel, or injection molded threaded receivers.

C. Framing:
1. Channel Types: 1-5/8 inch B22TH or 1-7/8 inch BTS22H, as required for loading conditions.
2. Thickness: 12 gauge
3. Form: Roll-formed 3-sided or tubular channel, perforated with 9/16 inch holes at 1-7/8 inch centers on three sides.
4. Material:
   a. Hot dip galvanized steel in accordance with ASTM A123/A123M after fabrication, free of roughness, whiskers, unsightly spangles, icicles, runs, barbs, sags, droplets, and other surface blemishes.
5. Do not use tubing or tube steel.

D. Pipe Supports and Hangers: Conform to MSS SP-58 and MSS SP-69 and as follows:
1. Fabricate of carbon steel where framing is carbon steel; fabricate of stainless steel where framing is stainless steel; finished same as framing.
2. Sizes 2-1/2 inch and smaller: Single roller supports for piping subject to expansion and contraction; 3-sided channels and pipe clamps.
3. Sizes 3 inch and larger: Rollers, clevis hangers, or band hangers, to allow for expansion and contraction without movement of the bases or framing.

E. Accessories: Clamps, bolts, nuts, washers, and other devices as required.
1. Carbon Steel: Hot dip galvanized in accordance with ASTM A153/A153M.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that roofing system is complete and that roof surfaces are smooth, flat, and ready to receive work of this section.

B. Verify that roof surface temperature is at minimum 60 degrees F, for proper adhesive performance.

3.02 PREPARATION

A. Clean surfaces of roof in areas to receive portable support bases.
1. Sweep loose gravel from gravel surfaced roofs.

2. Remove dirt, dust, oils, and other foreign materials.

B. Use care in handling portable support system components during installation, to avoid damage to roofing, flashing, equipment, or related materials.

3.03 INSTALLATION

A. Pipe, Cable, and Equipment Support Systems:
1. Locate bases and support framing as indicated on drawings and as specified herein. Provide support of piping, ducts, and conduit, whether or not required devices are shown.
2. The use of wood for supporting piping is not permitted.
3. Provide supports spaced so deflection of piping does not exceed 1/240 of span.
4. Install framing at spacing indicated, but in no case at greater than 10 feet on center.
5. Accurately locate and align bases.
   a. Consult manufacturer of roofing system as to the type of isolation pads required between the roof and base.
   b. Set isolation pads in adhesive if required by manufacturer's instructions.
   c. Place bases on isolation pads.
   d. Adhere or mechanically attach if required by code.
   e. Where applicable, replace gravel around bases.
6. Set framing posts into bases and assemble framing structure as indicated.
7. Use galvanized fasteners for galvanized framing and stainless steel fasteners for stainless steel framing.

3.04 FIELD QUALITY CONTROL

A. Provide a factory-trained representative of the manufacturer to visit the site while the work is in progress to assure that the installation conforms to the design requirements and the manufacturer's installation requirements.

3.05 PROTECTION

A. Provide protection as required to leave the work area in undamaged condition at the time of completion of work.

3.06 CLEANING

A. Remove packaging, unused fasteners, adhesive and other installation materials from the project site.

B. Remove adhesive from exposed surfaces of supports and bases and leave the work in clean condition.

END OF SECTION

SECTION 26 05 01

COMMON ELECTRICAL REQUIREMENTS FOR REROOFING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Electrical work required to accommodate the reroofing project.
   2. Disconnect, secure, and temporarily support rooftop electrical equipment, conduit, and wiring associated with RTUs, exhaust fans, condensing units, and other roof-mounted equipment.
   3. Disconnect, remove, and reinstall rooftop and building-mounted exterior lighting fixtures, photocells, and associated conduit and wiring affected by the reroofing work.
   4. Extension, reinforcement, or relocation of conduit supports, equipment racks, and roof jack penetrations for electrical raceways.
   5. Re-installation, alignment, and reconnection of low-voltage control wiring, building automation system (BAS) wiring, and fire/life-safety system conduit and wiring affected by the reroofing work.
   6. Testing and verification of disconnected and reconnected circuits, controls, and equipment to confirm proper operation.

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections, and the following Specification Sections, apply to this Section:
   1. Section 07 54 00 - Thermoplastic Single Ply Roofing
   2. Section 07 72 13 - Manufactured Roof Curbs
   3. Section 23 05 29 - Rooftop Hangers and Supports

1.03 REFERENCE STANDARDS

A. NFPA 70E - Standard for Electrical Safety in the Workplace; 2027.

1.04 SUBMITTALS

A. Product Data: Manufacturer's Product Data Sheets for lighting fixtures, photocells, disconnect switches, and conduit and wiring devices specified certifying material complies with specified requirements.

B. Shop Drawings: Detail temporary support methods for suspended or relocated conduit, wiring, and equipment during roof membrane removal and installation.

C. Circuit Directory: Submit as-built circuit directory identifying circuits disconnected and reconnected, panel and breaker designations, and any changes to circuit routing.

D. Field Quality Control Reports: Submit continuity test, insulation resistance test, and system operational verification logs.

1.05 QUALITY ASSURANCE

A. Contractor Qualifications: Engage an electrical subcontractor holding a current state electrical contractor license.

B. Technician Qualifications: Engage field electricians who are qualified persons per NFPA 70E for work involving energized equipment.

C. Coordination Meeting: Conduct a pre-roofing conference with the General Contractor, Roofing Contractor, Electrical Contractor, and Owner's representative. Establish communication lines and circuit shutdown and lockout/tagout schedules at the conference.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Handling: Handle fixtures, devices, and equipment in accordance with the manufacturer's instructions. Protect materials and finishes during handling and installation to prevent damage. Follow all safety warnings posted by the manufacturer.

PART 2 PRODUCTS

2.01 EQUIPMENT SUPPORTS

A. Refer to Specification Section 07 72 13 - Manufactured Roof Curbs

2.02 ELECTRICAL RACEWAY AND WIRING

A. Rigid Metal Conduit (RMC): Galvanized rigid steel conduit with threaded fittings, rated for outdoor exposure.

B. Liquidtight Flexible Metal Conduit (LFMC): Provide at equipment connections requiring flexibility, with UV-resistant jacket.

C. Wiring: THHN/THWN-2 copper conductors, sized to match existing circuit ampacity or as required by re-routed circuit lengths.

D. Weatherproof Fittings: Provide weatherproof conduit bodies, boxes, and fittings rated for wet locations at all rooftop connections.

2.03 DISCONNECT SWITCHES AND DEVICES

A. Disconnect Switches: Provide NEMA 3R rated, weatherproof disconnect switches, fusible or non-fusible as indicated, matching existing equipment ratings where replacement is required.

B. Weatherproof Covers: Provide weatherproof, in-use covers on all rooftop receptacles and switches.

PART 3 EXECUTION

3.01 EXAMINATION AND PREPARATION

A. Observe electrical equipment, conduit, and wiring on the roof before demolition. Document and photograph damage and operational deficiencies.

B. Circuit Shutdowns: Coordinate building power, building automation controls, and fire and life-safety circuit shutdowns with the facility operations team 48 hours minimum in advance.

C. Lockout/Tagout: Lockout and tagout circuits serving equipment to be disconnected in accordance with NFPA 70E and the Owner's electrical safety program before beginning work.

3.02 ELECTRICAL DISCONNECTION

A. Disconnections: Disconnect power, control, and low voltage wiring at equipment, junction boxes, or panels as required to accommodate roofing work.

B. Labeling: Label and photograph disconnected conductors and terminations prior to disconnection to ensure accurate reconnection.

C. Capping: Cap and seal open conduit ends and junction boxes upon disconnection to prevent water and roofing debris intrusion.

D. Temporary Support: Support or relocate conduit and wiring clear of the roofing work area using temporary racks or hangers. Do not rest conduit or wiring directly on the roof membrane.

3.03 RE-INSTALLATION AND RECONNECTION

A. Equipment and Fixture Resetting: Reinstall lighting fixtures, disconnect switches, and equipment in their original or approved relocated positions.

B. Wiring Reconnection: Reconnect power, control, and low voltage wiring per the labeling and photographic documentation recorded during disconnection. Use flexible connections where required to accommodate raised roof jack or curb heights.

C. Bonding and Grounding: Restore equipment grounding conductors and bonding jumpers at all reconnected equipment, raceways, and enclosures.

3.04 FIELD QUALITY CONTROL

A. Continuity Testing: Test reconnected circuits for continuity and correct polarity before energizing.

B. Insulation Resistance Testing: Perform insulation resistance testing on reconnected feeders and branch circuits exposed during the work.

C. Grounding Verification: Verify equipment grounding and bonding continuity at all reconnected equipment and raceways.

D. Operational Testing: Energize circuits and verify proper operation of lighting, photocells, controls, and connected equipment before project closeout.

END OF SECTION