Selma, North Carolina

UNION STATION IMPROVEMENTS

PROJECT MANUAL – BID DOCUMENT

JUNE 20, 2022

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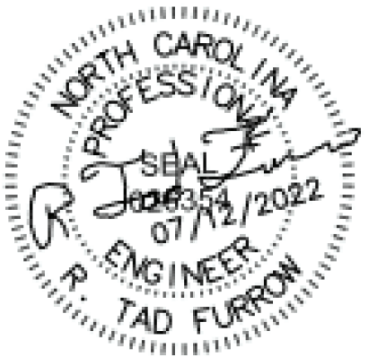
UNION STATION IMPROVEMENTS
SELMA, NORTH CAROLINA

PROFESSIONAL SEALS

ARCHITECT



ROOFING ENGINEER

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END OF SECTION

REQUEST FOR SEALED BIDS

FOR

SELMA UNION STATION IMPROVEMENTS
500 EAST RAILROAD ST.
SELMA, NC 27576

SEALED BIDS ARE DUE AT

TOWN OF SELMA
114 N. RAIFORD ST.
SELMA, NC 27576

3:00 p.m. THURSDAY, AUGUST 4, 2022

INVITATION TO BID- UNION STATION IMPROVEMENTS

NOTICE TO BIDDERS

Sealed bid for this work will be received by:

Brent Taylor, Town Manager
Town of Selma
114 N. Raiford St.
Selma, NC 27576
(919) 965-9841 Ext. 1002
Email: Btaylor@selma-nc.com

up to **3:00 PM**, on August 4, 2022, and immediately thereafter and publicly opened and read aloud. Complete plans and specification and contract documents can be obtained from:

IBI GROUP

Ms. Tasha Hicks
421 Fayetteville Street, Suite 1609
Raleigh NC 27601
Telephone (919) 851-4211 Ext. 51518
tasha.hicks@ibigroup.com

Contractors are hereby notified that they must have proper license under the State laws governing their respective trades and that North Carolina General Statute 87 will be observed in receiving and awarding contracts. General Contractors must have general license classification for all work pertaining to this project.

No bid may be withdrawn after the opening of bids for a period of 30 days. The Owner reserves the right to reject any or all bids and waive informalities.

Please note on the envelope – **Bid : Attn**:Owner Representative

Project Name

Bid Date

Contractor

License Number

INVITATION TO BID- UNION STATION IMPROVEMENTS

General Overview and Scope of Work

It is understood and agreed that by submitting a bid that the Contractor has examined these contract documents, drawings and specifications, has visited the site of the work, and has satisfied himself relative to the work to be performed.

A. The project is for roof flashing and interior finish repairs at the historic railroad property known as the Selma Union Station ("the Depot"). This 1923 structure is on the National Register of Historic Places. The building was comprehensively renovated in 2002, including an all-new roof, associated flashing, parapet coping, some brick re-pointing and all new interior finishes. This project's design improvements are intended to reduce water infiltration through the roof's flashings, gutters, parapets and exterior walls and to repair interior surface finishes. The work generally consists of the following: new roof flashings and flashing liner membrane; new metal flashing on gable end parapet walls; new membrane liner flashing on eave parapet walls; sealing minor cracks in exterior brick and concrete trim; interior plaster repairs including limited removal of ceramic tile installed during the prior renovation; re-painting walls and ceiling using same colors as existing. The project includes bid alternates.

B. This is an active AMTRAK station with services throughout the day. The Contractor shall be fully aware of the services and accommodate during time of departure and arrivals. In addition to be an AMTRAK station, several freight trains pass through each day, therefore the Contractor should implement stringent work safety practices.

C. The Town currently has a passenger deck rehabilitation project as part of a federal grant. If that project is not completed by the time this project is underway, the Contractor will have to coordinate with that Contractor, and the Town regarding lay down areas and egress and ingress. The expectation is that minimal coordination will need to take place.

D. The Project Owner is the Town of Selma, North Carolina. Oversight will be provided by the North Carolina Department of Transportation (NCDOT) Rail Division and by the North Carolina State Historic Preservation Office (SHPO).

E. The Contractor shall keep the sites and surrounding area reasonably free from rubbish at all times and shall remove debris from the site and from time to time when directed to do so by the Owner. Before final inspection, and acceptance of the project, the Contractor shall thoroughly clean the sites, and completely prepare the project and site for use by the Owner.

   At the end of construction, the Contractor shall oversee and implement the restoration of the construction site to its original state. Restoration includes, but is not limited to, walks, drives, lawns, trees and shrubs, corridors, stairs and other elements shall be repaired, cleaned or otherwise restored to their original state.

INTENT AND EXECUTION OF DOCUMENTS

The drawings and specifications are complementary, one to the other. That which is shown on the drawings or called for in the specifications shall be as binding as if it were both called for and shown. The intent of the drawings and specifications is to establish the scope of all labor, materials, transportation, equipment, and any and all other things necessary to provide a complete job. In case of discrepancy or disagreement in the Contract Documents, the order of precedence shall be Form of Contract, specifications, large-scale detail drawings, small-scale drawings.

In such cases where the nature of the work requires clarification by the Designer/ Owner, the Designer/ Owner shall furnish such clarification. Clarifications and drawings shall be consistent with the intent of the Contract Documents and shall become a part thereof.

AS-BUILT MARKED-UP CONSTRUCTION DOCUMENTS

Contractor shall provide one complete set of legible "as-built" marked-up construction drawings and specifications recording any and all changes made to the original design during the course of construction. In the event no changes occurred, submit construction drawings and specifications set with notation "No Changes." The

Designer/Owner must receive "As-built" marked-up construction drawings and specifications before the final pay request can be processed.

SUBMITTAL DATA

The Contractor awarded the contract shall submit all specified submittals to the Owner/Designer. A minimum number of copies as specified by the owner, of all required submittal data pertaining to construction, performance and general dimensional criteria of the components listed in the technical specifications shall be submitted. No material or equipment shall be ordered or installed prior to written approval of the submittals by the Designer/Owner. Failure to provide submittal data for review on equipment listed in the technical specifications will result in removal of equipment by the Contractor at his expense if the equipment is not in compliance with the specifications.

SUBSTITUTIONS

In accordance with the provisions of G.S. 133-3, material, product, or equipment substitutions proposed by the bidders to those specified herein can only be considered during the bidding phase until five (5) days prior to the receipt of bids or by the date specified in the pre bid conference, when submitted to the Designer with sufficient data to confirm material, product, or equipment equality. Proposed substitutions submitted after this time will be considered only as potential change order.

Submittals for proposed substitutions shall include the following information:

Name, address, and telephone number of manufacturer and supplier as appropriate.

Trade name, model or catalog designation.

Product data including performance and test data, reference standards, and technical descriptions of material, product, or equipment. Include color samples and samples of available finishes as appropriate.

a. Detailed comparison with specified products including performance capabilities, warranties, and test results.

b. Other pertinent data including data requested by the Designer to confirm product equality.

If a proposed material, product, or equipment substitution is deemed equal by the Designer to those specified, all bidders of record will be notified by Addendum**.**

WORKING DRAWINGS AND SPECIFICATIONS AT THE JOB SITE

The Contractor shall maintain, in readable condition at his job site one complete set of working drawings and specifications for his work including all shop drawings. Such drawings and specifications shall be available for use by the owner, designer or his authorized representative.

The Contractor shall maintain at the job site, a day-to-day record of work-in-place that is at variance with the contract documents. Such variations shall be fully noted on project drawings by the contractor and submitted to the designer upon project completion and no later than 30 days after acceptance of the project.

The specifications included in this invitation bid are covered in this document and the project manual. An addendum shall be posted on the Town's website and shall be the responsibility of the bidder to view the website for any addendums.

EXAMINATION OF SERVICE AREA

Prospective Bidders are responsible for completely informing themselves of all the conditions under which the service is to be performed. This includes examination of the service area where the service is to be performed.

CONTRACTOR INFORMATION

The Bidder shall furnish the following information:

A list of five comparable projects preferably with a municipality in the state of North Carolina. The reference shall include the following:

Name of Town

Contact Person
Address
Phone Number
Email Address
Website

CHANGES IN THE WORK AND CLAIMS FOR EXTRA COST

The owner may have changes made in the work covered by the contract. These changes will not invalidate and will not relieve or release the Contractor from any guarantee given by him pertinent to the contract provisions. These changes will not affect the validity of the guaranteed bond and will not relieve the surety or sureties of said bond. All extra work shall be executed under conditions of the original contract.

Change orders shall be submitted by the Contractor in writing to the Owner/Designer for review and approval. The Contractor will provide such proposal and supporting data in suitable format. The Designer shall verify correctness. The Designer shall submit to NCDOT and/or SHPO for approval. Delay in the processing of the change order due to lack of proper submittal by the Contractor of all required supporting data shall not constitute grounds for a time extension or basis of a claim. Within fourteen (14) days after receipt of the Contractor's accepted proposal including all supporting documentation required by the Designer, the Designer shall prepare the change order and forward to the Contractor for his signature or otherwise respond, in writing, to the Contractor's proposal. Within seven (7) days after receipt of the change order executed by the Contractor, the designer shall, certify the change order by his signature, and forward the change order and all supporting data to the owner for the Owner's signature. The Owner shall execute the change order, within seven (7) days of receipt.

REGULATORY REQUIREMENTS

COMPLIANCE WITH APPLICABLE LAWS

The Contractor shall comply with all applicable Federal, State, County and Municipal laws, ordinances, rules, and regulations. All work under the contract shall conform to the current North Carolina Building Code, County and State, Federal codes as applicable. If the Contractor observes that the drawings and specifications are at variance therewith, he shall promptly notify the Designer in writing. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, codes, rules and regulations, and with such notice to the Owner, shall bear all cost arising there from.

The Contractor shall pay all sales, use, property, income, unemployment, and other taxes that are lawfully assessed against the Town or the Contractor in connection with the Contractor's facilities and the work included in this contract.

Immediately upon the awarding of the contract, the Contractor shall secure and pay for, at its own expense, all necessary permits, licenses, and certificates of authority required to complete the work, and shall comply with all requirements of such permits, licenses, and certificates of authority to operate in the Town including inspections. The Contractor shall keep and maintain in all such licenses, permits, and certifications of authority in full force and effect throughout the term of this Contract.

E-Verify

E-Verify is the federal program operated by the United States Department of Homeland Security and other Federal agencies, or successor or equivalent program, used to verify the work authorization of newly hired employees pursuant to federal law. The successful contractor warrants that they and any subcontractor performing work under this Agreement: (1) uses E-Verify if required to do so by North Carolina law and (2) otherwise complies with Article 2 of Chapter 64 of the North Carolina General Statues. A breach of this warranty by any party will be considered a breach of this agreement, which entitles the other parties to terminate this Agreement, without penalty, upon notice to the breaching party.

JURIDICTION AND VENUE

Contractor agrees that jurisdiction over any dispute arising under, or in relation to this Agreement, shall be filed in the Court of competent jurisdiction within the state of NC with North Carolina law governing, without any reference to any conflict of laws provision and that any subcontract issued by Contactor shall contain this same provision.

PROTECTION OF WORK, PROPERTY, THE PUBLIC AND SAFETY

a. The Contractors shall be jointly responsible for the entire site, the building or construction of same, and provide all the necessary protections, as required by the Owner or Designer, and by laws or ordinances governing such conditions. They shall be responsible for any damage to the Owner's property, or property of others on the job, by them, their personnel, or their subcontractors, and shall make good such damages. They shall be responsible for, and pay for, any damages caused to the Owner. All contractors shall have access to the project at all times, except as indicated in the Supplemental General Conditions.

b. The Contractor shall provide, cover and protect all portions of the structure when the work is not in progress; provide and set all temporary roofs, covers for doorways, sash and windows, and all other materials necessary to protect all the work on the building, whether set by him, or any of the subcontractors. Any work damaged through the lack of proper protection, or from any other cause, shall be repaired or replaced without extra cost to the Owner.

c. No fires of any kind will be allowed inside or around the operations during the course of construction without special permission from the designer and owner.

d. The Contractor shall protect all trees and shrubs designated to remain in the vicinity of the operations. He shall barricade all walks, roads, etc., as directed by the Designer to keep the public away from the construction. All trenches, excavations or other hazards in the vicinity of the work shall be well barricaded and properly lighted at night.

e. The Contractor shall provide all necessary safety measures for the protection of all persons on the job, including the requirements of the

A.G.C. *Accident Prevention Manual in Construction*, as amended, shall fully comply with all state laws or regulations, and North Carolina State Building Code requirements to prevent accident or injury to persons on or about the location of the work. Contractor shall clearly mark or post signs warning of hazards existing, and shall barricade excavations, elevator shafts, stairwells and similar hazards. He shall protect against damage or injury resulting from falling materials and he shall maintain all protective devices and signs throughout the progress of the work.

f. The Contractor shall adhere to the rules, regulations and interpretations of the North Carolina Department of Labor relating to Occupational Safety and Health Standards for the Construction Industry (Title 29, Code of Federal Regulations, Part 1926, published in Volume 39, Number 122, Part II, June 24, 1974, *Federal Register*), and revisions thereto as adopted by General Statutes of North Carolina 95-126 through 155.

c. In the event of emergency affecting the safety of life, the protection of work, or the safety of adjoining properties, the Contractor is hereby authorized to act at his own discretion, without further authorization from anyone, to prevent such threatened injury or damage. Any compensation claimed by the Contractor on account of such action shall be determined as provided for under Article 13(b).

d. Any and all costs associated with correcting damage caused to adjacent properties of the construction site or staging area shall be borne by the Contractor. These costs shall include, but are not limited to, flooding, mud, sand, stone, debris, and discharging of waste products.

INDEPENDENT CONTRACTOR

The Contractor shall be deemed to be an Independent Contractor, solely responsible for the control and payment of its employees and compliant with all applicable Federal, State County and Municipal laws. In no way will the Contractor be considered an agent or representative of the Town.

Subcontracts and Contractor-SUBCONTRACTOR RELATIONSHIP

The Contractor shall not assign or subcontract this contract or the work hereunder, or any part thereof, to any other person, firm, or corporation without the prior written consent of the Town. Such approved assignment shall not relieve the Contractor from obligations or change the terms.

The Contractor is and remains fully responsible for his own acts or omissions as well as those of any subcontractor or of any employee of either. The Contractor agrees that no contractual relationship exists between the subcontractor and the Owner in regard to the contract, and that the subcontractor acts on this work as an agent or employee of the Contractor.

The Contractor agrees that the terms of these Contract Documents shall apply equally to each Subcontractor as to the Contractor, and the Contractor agrees to take such action as may be necessary to bind each Subcontractor to these terms. The Contractor further agrees to conform to the Code of Ethical Conduct as adopted by the Associated General Contractors of America, Inc., with respect to Contractor-Subcontractor relationships. The Owner reserves the right to limit the amount of portions of work to be subcontracted as hereinafter specified.

Insurance

The Contractor and sub-contractors shall carry all insurance coverages required by law or which would normally be expected for the business. In addition, the Contractor shall carry, at its own expense, as a minimum the following coverage:

1) Workers Compensation. The Contractor shall carry in a company authorized under the laws of the State of North Carolina. Must provide proof of insurance and maintain it at all times.
2) General Liability Insurance- Contractor shall carry in his own name a comprehensive liability policy for his operations, other than automobile, the following minimum or greater:
    a) Bodily injury, with limits not less than $1,000,000 each occurrence/$2,000,000 aggregate.
    b) Property damage with limits not less than $1,000,000 each occurrence/$2,000,000 aggregate.

c) Contractual Insurance- broad form, with limits of not less than $1,000,000 each occurrence, $2,000,000 aggregate.

3) Auto Liability Insurance. Contractor shall carry in his own name a policy under a comprehensive form to insure the entire automobile liability of operations with following minimum limits of:

a) Bodily injury, with limits of not less than $1,000,000 each occurrence/ $2,000,000 aggregate.

b) Property damage, with limits of not less than $1,000,000 each occurrence/$2,000,000 aggregate; this insurance must include non-owned, hired, leased, or rented vehicles, as well as owned vehicles.

The Contractor shall include the Town and the NC Department of Transportation, as an additional named insured on both General Liability and Automotive Liability insurance policies. The insurance coverage shall be written with insurance companies acceptable to the Town. All insurance premiums shall be paid without cost to the Town. The Contractor shall furnish to the Town a Certificate of Insurance attesting to the respective insurance coverage for the full contract term prior to commencement of a contract.

All insurance policies carried by the Contractor shall bear an endorsement, or shall have attached thereto a rider, providing that in the event of cancellation of such policies for any reason whatsoever the Town shall be notified in writing by the carrier and Contractor by mail at least 30 days prior to the effective date of cancellation or reduction.

Property Insurance (Builder's Risk/Installation Floater)

The Contractor shall purchase and maintain property insurance until final acceptance, upon the entire work at the site to the full insurable value thereof. This insurance shall include the interests of the Owner, the Contractor, the Subcontractors and sub-subcontractors in the work and shall insure against the perils of fire, wind, rain, flood, extended coverage, vandalism and malicious mischief. If the Owner is damaged by failure of the Contractor to purchase or maintain such insurance, then the Contractor shall bear all reasonable costs properly attributable thereto; the Contractor shall effect and maintain similar property insurance on portions of the

work stored off the site when request for payment per articles so includes such portions.

DEDUCTIBLE

Any deductible, if applicable to loss covered by insurance provided, is to be borne by the Contractor.

INDEMNIFICATION

Contractor and its Subcontractors shall indemnify, defend, and hold harmless the Town, its Council, officers, agents, and employees, from liability of any kind, including all claims and losses for injuries to persons or damage to property accruing or resulting to any other person, firm, or corporation furnishing or supplying work, services, materials, or supplies in connection with the performance of this Agreement, and from any and all claims and losses accruing or resulting to any person, firm, or corporation that may be injured or damaged by the Contractor or its Subcontractors in the performance of this Agreement. This representation and warranty shall survive the termination or expiration of this Agreement.

PERFORMANCE BOND

The Proposal shall be accompanied by a letter from a corporate surety qualified to do business in North Carolina stating that the Performance Bond will be furnished to the Contractor submitting the Proposal in the event is the successful Proposer. The Proposer shall submit within 14 days from the notice of award of the Contract, the performance bond. The bond shall be in the amount of the cost of the project and shall remain in effect throughout the duration of the contract.

ANNULMENT OF CONTRACT

If the Contractor fails to begin the work under the contract within the time specified, or the progress of the work is not maintained on schedule, or the work is not completed within the time specified, or fails to perform the work with sufficient workmen and equipment or with sufficient materials to ensure the prompt completion of said work, or shall perform the work unsuitably or shall discontinue the prosecution of the work, or if the Contractor shall become insolvent or be declared bankrupt or

commit any act of bankruptcy or insolvency, or allow any final judgment to stand against him unsatisfied for a period of forty-eight (48) hours, or shall make an assignment for the benefit of creditors, or for any other cause whatsoever shall not carry on the work in an acceptable manner, the Owner may give notice in writing, sent by certified mail, return receipt requested, to the Contractor and his surety (if applicable) of such delay, neglect or default, specifying the same, and if the Contractor within a period of seven (7) days after such notice shall not proceed in accordance therewith, then the Owner shall, declare this contract in default, and, thereupon, the surety shall promptly take over the work and complete the performance of this contract in the manner and within the time frame specified. In the event the Contractor, or the surety (if applicable), shall fail to take over the work to be done under this contract within seven (7) days after being so notified and notify the Owner in writing, sent by certified mail, return receipt requested, that he is taking the same over and stating that he will diligently pursue and complete the same, the Owner shall have full power and authority, without violating the contract, to take the prosecution of the work out of the hands of said Contractor, to appropriate or use any or all contract materials and equipment on the grounds as may be suitable and acceptable and may enter into an agreement, either by public letting or negotiation, for the completion of said contract according to the terms and provisions thereof or use such other methods as in his opinion shall be required for the completion of said contract in an acceptable manner. All costs and charges incurred by the Owner, together with the costs of completing the work under contract, shall be deducted from any monies due, or which may become due said Contractor and surety (if applicable). In case the expense so incurred by the Owner shall be less than the sum which would have been payable under the contract, if it had been completed by said Contractor, then the said Contractor and surety (if applicable) shall be entitled to receive the difference, but in case such expense shall exceed the sum which would have been payable under the contract, then the Contractor and the surety (if applicable) shall be liable and shall pay to the owner the amount of said excess.

TERMINATION FOR CONVENIENCE

a. Owner may at any time and for any reason terminate Contractor's services and work at Owner's convenience, after notification to the Contractor in writing via certified mail. 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.

b. 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 approved by Owner; (3) plus ten percent (10%) of the cost of the balance of the work to be completed for overhead and profit. There shall be deducted from such sums as provided in this subparagraph the amount of any 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.

All work product completed and paid for by the Town as of the date of termination shall be the sole property of the Town.

OWNER'S RIGHT TO DO WORK

If, during the progress of the work or during the period of guarantee, the Contractor fails to prosecute the work properly or to perform any provision of the Contract, the Owner, after seven (7) days' written notice sent by certified mail, return receipt requested, to the Contractor from the Designer, may perform or have performed that portion of the work. The cost of the work may be deducted from any amounts due or to become due to the Contractor, such action and cost of same having been first approved by the Designer. Should the cost of such action of the Owner exceed the

amount due or to become due the Contractor, then the Contractor or his surety, or both, shall be liable for and shall pay to the Owner the amount of said excess.

REQUESTS FOR PAYMENT

Contractor shall refer to the Supplemental General Conditions for specific directions on payment schedule, procedures and the name and address where to send applications for payments for this project. It is imperative that invoices be sent only to the above address in order to assure proper and timely delivery and handling.

The Designer/Owner will process all Contractor pay requests as the project progresses. The Contractor shall receive payment within thirty (30) consecutive calendar days after Designer/Owner's approval of each pay request. Payment will only be made for work performed as determined by the Designer/Owner.

Retainage:

a. Retainage withheld will not exceed 5% at any time.

b. The same terms apply to general contractor and subcontractors alike.

c. Following 50% completion of the project no further retainage will be withheld if the contractor/subcontractor has performed their work satisfactorily.

d. Exceptions:

1. Owner/Designer can reinstate retainage if the contractor/subcontractor does not continue to perform satisfactorily.

2. Following 50% completion of the project, the Owner is authorized to withhold additional retainage from a subsequent periodic payment if the amount of retainage withheld falls below 2.5%.

3. The Contractor shall submit a Sales Tax Certification Form with every paid application.

Final payment will be made within forty-five (45) consecutive calendar days after acceptance of the work, receipt of marked-up "as-built" drawings and specifications and the submission both of notarized Contractor's affidavit and

final pay request. All pay requests shall be submitted to the Designer/Owner for approval.

THE CONTRACTOR'S FINAL PAYMENT AFFIDAVIT SHALL STATE: "THIS IS TO CERTIFY THAT ALL COSTS OF MATERIALS, EQUIPMENT, LABOR, SUBCONTRACTED WORK, AND ALL ELSE ENTERING INTO THE ACCOMPLISHMENT OF THIS CONTRACT, INCLUDING PAYROLLS, HAVE BEEN PAID IN FULL."

PAYMENTS WITHHELD

The Designer with the approval of the Owner may withhold payment for the following reasons:

a) Faulty work not corrected.
b) The unpaid balance on the contract is insufficient to complete the work in the judgment of the Designer.
c) To provide for sufficient Contract balance to cover liquidated damages that will be assessed.
d) Claims filed against the Contractor or evidence that a claim will be filed.
e) Evidence that Subcontractors have not been paid.

When grounds for withholding payments have been removed, payment will be released.

GUARANTEE

The Contractor shall unconditionally guarantee materials and workmanship against patent defects arising from faulty materials, faulty workmanship or negligence for a period of twelve (12) months following the final acceptance of the work and shall replace such defective materials or workmanship without cost to the Owner.

Where items of equipment or material carry a manufacturer's warranty for any period in excess of twelve (12) months, then the manufacturer's warranty shall apply for that particular piece of equipment or material. The Contractor shall replace such

defective equipment or materials, without cost to the Owner, within the manufacturer's warranty period.

Additionally, the Owner may bring an action for latent defects caused by the negligence of the Contractor, which is hidden or not readily apparent to the Owner at the time of beneficial occupancy or final acceptance, whichever occurred first, in accordance with applicable law.

Guarantees for roofing workmanship and materials shall be stipulated in the specifications section governing such roof, equipment, materials, or supplies.

TAXES

a. Federal excise taxes do not apply to materials entering into state work (Internal Revenue Code, Section 3442(3)).

b. Federal transportation taxes do not apply to materials entering into state work (Internal Revenue Code, Section 3475(b) as amended).

c. North Carolina sales tax and use tax, as required by law, do apply to materials entering into state work and such costs shall be included in the bid proposal and contract sum.

d. Local option sales and use taxes, as required by law, do apply to materials entering into state work as applicable and such costs shall be included in the bid proposal and contract sum.

e. **Accounting Procedures for Refund of County Sales & Use Tax**

Amount of county sales and use tax paid per Contractor's statements:

Contractors performing contracts for state agencies shall give the state agency for whose project the property was purchased a signed statement containing the information listed in G.S. 105-164.14(e).

The Department of Revenue has agreed that in lieu of obtaining copies of sales receipts from contractors, an agency may obtain a certified statement as of April 1, 1991 from the Contractor setting forth the date, the type of property and the cost of

the property purchased from each vendor, the county in which the vendor made the sale and the amount of local sales and use taxes paid thereon. If the property was purchased out-of-state, the county in which the property was delivered should be listed. The Contractor should also be notified that the certified statement may be subject to audit.

In the event the Contractors make several purchases from the same vendor, such certified statement must indicate the invoice numbers, the inclusive dates of the invoices, the total amount of the invoices, the counties, and the county sales and use taxes paid thereon.

Name of taxing county: The position of a sale is the retailer's place of business located within a taxing county where the vendor becomes contractually obligated to make the sale. Therefore, it is important that the county tax be reported for the county of sale rather than the county of use.

The Contractor shall submit a Sales Tax Certification Form with every paid application.

When property is purchased from out-of-state vendors and the county tax is charged, the county should be identified where delivery is made when reporting the county tax.

Such statement must also include the cost of any tangible personal property withdrawn from the Contractor's warehouse stock and the amount of county sales or use tax paid thereon by the Contractor.

Similar certified statements by his subcontractors must be obtained by the general contractor and furnished to the claimant.

Contractors are not to include any tax paid on supplies, tools and equipment which they use to perform their contracts and should include only those building materials, supplies, fixtures and equipment which actually become a part of or annexed to the building or structure.

ACCESS TO PERSONS AND RECORDS

The State Auditor shall have access to persons and records as a result of all contracts or grants entered into by the Owner in accordance with General Statute 147-64.7. The Owner's internal auditors shall also have the right to access and copy the Contractor's records relating to the Contract and Project during the term of the Contract and within two years following the completion of the Project/close-out of the Contract to verify accounts, accuracy, information, calculations and/or data affecting and/or relating to Contractor's requests for payment, requests for change orders, change orders, claims for extra work, requests for time extensions and related claims for delay/extended general conditions costs, claims for lost productivity, claims for lost efficiency, claims for idle equipment or labor, claims for price/cost escalation, pass-through claims of subcontractors and/or suppliers, and/or any other type of claim for payment or damages from Owner and/or its project representatives.

Supplementary Conditions

TIME OF COMPLETION

The Contractor shall commence work to be performed under this Contract on a date to be specified in written order from the Designer/Owner and shall fully complete all work hereunder within the following time frames:

- Base Bid: Ninety (90) consecutive calendar days from the Notice to Proceed until Substantial Completion.
- Bid Alternate 1, if accepted: Add Ten (10) consecutive calendar days.
- Bid Alternate 2, if accepted: Add Sixty (60) consecutive calendar days.
- Total Time Frame if both Bid Alternates are accepted: One Hundred Sixty (160) consecutive calendar days.

For each calendar day in excess of the above number of days, the Contractor shall pay the Owner the amount of Five Hundred Dollars ($500, a day) as liquidated damages reasonably estimated in advance to cover the losses to be incurred by the Owner should the Contractor fail to complete the Work within the time specified.

If the Contractor is delayed at any time in the progress of his work by any act or negligence of the Owner, his employees or his separate contractor; by changes ordered in the work; by abnormal weather conditions; by any causes beyond the Contractor's control or by other causes deemed justifiable by Owner, then the contract time may be reasonably extended in a written order from the Owner upon written request from the Contractor within ten days following the cause for delay. Time extensions for weather delays, acts of God, labor disputes, fire, delays in transportation, unavoidable casualties or other delays which are beyond the control of the Owner do not entitle the Contractor to compensable damages for delays. Any Contractor claim for compensable damages for delays is limited to delays caused solely by the Owner or its agents.

ROOFING GUARANTEE

The following paragraph is hereby added and shall become a part of the Guarantee of the General Conditions of the Contract. The substitution of an equal or longer-term manufacturer's warranty in lieu of this requirement will not be accepted.

The Roofing Contractor shall warrant the materials and workmanship of the roofing system against leakage and against defects due to faulty materials, workmanship and contract negligence for a period of two (2) years following acceptance of the project by the Owner."

NO SMOKING POLICY

There shall be no smoking within the building whatsoever. Smoking shall be limited to outside the building and beyond 50 feet of the entrance. Under no circumstances shall cigarette butts be left on the premises.

UTILITIES

The Owner will provide access to utilities including power and water. However, the access shall not interfere with patrons inside the building or boarding or departing a train.

SUBMITTAL

RIGHT TO REJECT

The Town reserves the right to reject any and all proposals or parts of proposals, waive formalities, technical deficiencies and irregularities or otherwise solicit new proposals if another manner of negotiation better serves its interests. The Town reserves the right to reject any or all proposals for reasons including but not limited to any proposal the Town considers the proposer unqualified, poses doubtful financial or performance ability. The Town reserves the right to interview, request additional information and/or negotiate terms with all bidders, and to select the proposal determined to be the best, most responsible and most advantageous to the Town.

Questions

Questions shall be directed Brent Taylor, Town Manager, at btaylor@selma-nc.com and 919-965-9841.

Job Site Visits

Prospective Bidders are highly encouraged to visit the Selma Union Station job site prior to submitting a bid proposal. The Town has set aside Tuesday, July 26 between the hours of 8:00 am and noon and from 1:00 pm to 5:00 pm for site visits. All visitors are to schedule their visit in advance with Ben Scoggins, Public Works Director, at bscoggins@selma-nc.com and (919) 965-9841 Ext. 4001. Note that for safety reasons access to the roof cannot be accommodated. Upon request, photos of the roof and parapet wall conditions may be obtained through IBI Group.

SUBMITTAL

Proposals shall be delivered to 114 N. Raiford St. Selma, NC 27576.

Proposals shall be submitted no later than 3:00 p.m. Thursday, August 4, 2022.

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FORM OF PROPOSAL
Selma Station Improvements

Bidder: _____ Date: _____

Address: _____ Telephone No. _____

The undersigned, as bidder, hereby declares that the only person or persons interested in this proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this proposal 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 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 further declares that he and his subcontractors have fully complied with NCGS 64, Article 2 in regards to E-Verification as required by Section 2. (c) of Session Law 2013-418, codified as N.C. Gen. Stat. § 143-129(j).

The Bidder proposes and agrees if this proposal is accepted to contract with the Town of Selma in the form of contract specified below, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the renovation of Selma Station Depot

in full in complete accordance with the plans, specifications, and contract documents, to the full and entire satisfaction of the Town of Selma, and the North Carolina Department of Transportation 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, for the sum of:

SINGLE PRIME CONTRACT: _____

Base Bid:

_____ Dollars ($)_____

Alternate #1 Application of Water Repellent

_____ Dollars (s) _____

Alternate # 2 Interior Repair Work

_____ Dollars (s) _____

General Subcontractor: Plumbing Subcontractor:

_____Lic_____ _____Lic_____

Mechanical Subcontractor: Electrical Subcontractor:

_____Lic_____ _____Lic_____

GS143-128(d) requires all single prime bidders to identify their subcontractors for the above subdivisions of work. A contractor whose bid is accepted shall not substitute any person as subcontractor in the place of the subcontractor listed in the original bid, except (i) if the listed subcontractor's bid is later determined by the contractor to be non-responsible or non-responsive or the listed subcontractor refuses to enter into a contract for the complete performance of the bid work, or (ii) with the approval of the awarding authority for good cause shown by the contractor.

UNIT PRICES

Unit prices quoted and accepted shall apply throughout the life of the contract, except as otherwise specifically noted. See Division 1 Section 01 22 00 for descriptions.

No. 1 44-inch-long precast concrete capstone on Main Building east or west end: per unit. Unit Price ($) _____

No. 2 48-inch-long precast concrete capstone on north or south side: per unit. Unit Price ($) _____

No. 3 44-inch-long precast concrete capstone on Tower east or west end: per unit. Unit Price ($) _____

Proposal Signature Page

The undersigned further agrees that in the case of failure on his part to execute the said contract and the bonds within ten (10) consecutive calendar days after being given written notice of the award of contract, the certified check, cash or bid bond accompanying this bid shall be paid into the funds of the owner's account set aside for the project, as liquidated damages for such failure; otherwise the certified check, cash or bid bond accompanying this proposal shall be returned to the undersigned.

Respectfully submitted this day of _____

_____

(Name of firm or corporation making bid)

WITNESS:

_____

(Proprietorship or Partnership)

By:_____

Signature

Name: _____

Print or type

Title_____

(Owner/Partner/Pres./ Vice Pres)

Address_____

_____

ATTEST:

By:_____

Title:_____

(Corp. Sec. or Asst. Sec. only)

License No._____

Federal I.D. No. _____

Email Address: _____

(CORPORATE SEAL)

Addendum received and used in computing bid:

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

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APPENDIX A

SALES TAX FORM

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North Carolina Sales Tax
(Paid During This Estimate Period)

Project: _____ Project Location: _____County Pay Estimate Number: _____

Contractor:_____ Period Ending: _____

Date	Vendor	Invoice Number	Invoice Amount	State Tax	County Tax	Transit Tax	Total Tax	County
TOTALS								

I certify that the above listed vendors were paid sales tax upon purchases of building materials during the period covered by the construction estimate, and the property upon which such taxes were paid with or will be used in the performance of this contract. No tax on purchases or rentals of tools and/or equipment is included in the above list. All of the material above became a part of or is annexed to the building or structure being erected, altered or repaired.

_____County, North Carolina

Signed and sworn to (or affirmed) before this day by _____ _____
(name of principal) (signature of principal)

Date: _____ _____
Notary Public's Signature

_____ _____
(Notary's printed or typed name, Notary Public) (Official Seal) My commission expires:

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APPENDIX B

QUALIFICATIONS OF BIDDERS

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APPENDIX B
QUALIFICATIONS OF BIDDERS

In order to assist the Owner in determining whether the Bidder is qualified to perform the Work, as set forth in the Contract Documents, the Bidder shall furnish the following information as an attachment to the Bid Form to assist the owner in evaluating the Bidder's qualifications.

Years Bidder has been in business providing similar services to that as outlined in these Bid Documents under the same business name and legal entity: _____

List **three (3)** Project References who are qualified to judge as to the Bidder's financial responsibility and his experience in providing similar equipment and performing work within the last five (5) years of a similar nature to that as outlined in these Bid Documents.

PROJECT REFERENCE

A. Project Name:

_____

B. Owner Name and Contact Information:

_____

C. Project Description:

_____

_____

_____

D. Bidder's Role in Project:

_____

E. Contract Date Started (approximate):

_____

F. Date Project was Substantially Complete (approximate):

_____

G. Dollar Value of Construction (approximate):

_____

Bidder shall attach additional pages, if necessary, in order to complete the required information.

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APPENDIX C

INDEX OF DRAWINGS

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INDEX OF DRAWINGS

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APPENDIX D

FORM OF PERFORMANCE BOND

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SELMA NC
THE CROSSROADS OF TRADITION AND INNOVATION

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:

_____
(Proprietorship or Partnership)

Attest: (Corporation)

By: _____

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

(Corporate Seal)

_____
Contractor: (Trade or Corporate Name)

By: _____

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

_____
(Surety Company)

Witness:

_____

By: _____

Title: _____
(Attorney in Fact)

Countersigned:

_____

_____
(N.C. Licensed Resident Agent)

(Surety Corporate Seal)

_____

_____
Name and Address-Surety Agency

_____

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

SECTION 01 11 00

SUMMARY OF WORK

PART 1 – GENERAL

1.01 PROJECT DESCRIPTION

A. The project is for roof flashing and interior finish repairs at the historic railroad property known as the Selma Union Station ("the Depot"). This 1923 structure is on the National Register of Historic Places. The building was comprehensively renovated in 2002, including an all new roof, associated flashing, parapet coping, some brick re-pointing and all new interior finishes. This project's design improvements are intended to reduce water infiltration through the roof's flashings, gutters, parapets and exterior walls and to repair interior surface finishes. The work generally consists of the following: new roof flashings and flashing liner membrane; new metal flashing on gable end parapet walls; new membrane liner flashing on eave parapet walls; sealing minor cracks in exterior brick and concrete trim; interior plaster repairs including limited removal of ceramic tile installed during the prior renovation; re-painting walls and ceiling using same colors as existing. The project includes bid alternates.

B. The Project Owner is the Town of Selma, North Carolina. Oversight will be provided by the North Carolina Department of Transportation (NCDOT) and by the North Carolina State Historic Preservation Office (SHPO).

1.02 PROJECT SEQUENCE

A. The Work is to be sequenced so as to maintain Public use of the facility during normal business hours of operation: Daily 10:00 am to 5:00 PM.

B. All exterior Work is to be completed and tested to demonstrate weathertightness prior to the start of any interior work.

C. If the bid alternate for exterior sealing is included, this work may start at any time after Contractor testing indicates successful weathertightness results, and prior to Substantial Completion.

D. Interior Work may occur in only one of the three toilet facilities at any one time. At least two toilet facilities must be maintained for Public access at all times. Contractor is to provide temporary signage directing the Public to the single occupant toilet when Work is ongoing in either of the two multi-fixture toilet facilities.

   a. Interior Work may occur in the Public Waiting Area during daily operations under the following conditions:
   No excessive noise or dust escapes the area of Work. Provide temporary dust barriers as necessary.

b. At least 50% of the Waiting Area benches are maintained in service.
c. The Public always has access to two of the three exterior exit doors when the facility is occupied.
d. The Public has access to the Ticket window and south Platform at all times.
e. The Public has access to at least two of the three toilet facilities at all times.

1.03 WORK BY OWNER TO BE COORDINATED BY CONTRACTOR

A. During construction, the Owner is responsible for temporary removal of all loose furniture, equipment, and displays as may be required by the work. Contractor is to provide two weeks advance notice to the Owner for any loose items to be removed in order to advance the Work. Contractor is to include time for these Owner activities within its Project Schedule, and endeavor to coordinate the Work with these activities.

B. After Substantial Completion, the Owner will be responsible for reinstallation of all loose furniture, equipment, and displays that it had previously removed.

C. After Substantial Completion, Owner will reinstall all wall-mounted and loose furnishings for which the Owner was responsible for moving.

1.04 CONTRACTOR USE OF SITE AND PREMISES

A. The facility will remain occupied throughout the construction. Contractor may work outside of the facility's daily operating hours only with advanced written approval of the Owner.

B. When Work occurs outside of normal operating hours, Contractor is responsible for securing the building and its contents.

C. All exterior material storage, temporary facilities and parking are limited to within the site boundaries, unless otherwise authorized in writing by the Owner.

1.05 BUILDING PERMITS AND APPROVALS

A. The Project is for non-structural repairs and does not affect life-safety, therefore, the Town does not require a building permit for this Work.

B. The facility is on the National Register of Historic Places. The Design has been reviewed by the North Carolina State Historic Preservation Office (SHPO). Deviations from the Design indicted will require review and approval by SHPO.

1.06 TESTING

A. Exterior roof and parapet wall work is to be tested by the Contractor for weathertightness. Requirements for this testing are found on the drawings.

B. The Owner will directly retain a consultant to monitor the Contractor's testing.

A. Requirements for other Contractor material testing are indicated in individual technical specification sections.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION

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SECTION 01 21 00

ALLOWANCES

PART 1 – GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements governing allowances.

B. Drawings and general provisions of the Contract and other Division 01 Specification Sections apply to this Section.

C. Allowances:

1. **All Allowances shall be included in the Contractor's lump sum bid**.

2. Contractor is to determine costs for each Quantity Allowance and these costs shall be included in the Contractor's bid.

3. The Contractor shall be reimbursed for materials and equipment furnished under allowances on a monthly basis by including said allowances in the monthly applications for partial payment. Supporting invoices shall be attached to each application that includes such request for reimbursement. Payment will be based on contract Unit Prices.

4. Adjustments to allowances may be made by change order.

5. Allowances shall be identified as separate line items on the Schedule of Values within each Application for Payment.

D. The Contractor shall be reimbursed from the allowance for purchase of materials and equipment based on the invoice cost of said materials and equipment. All labor, equipment, and incidental materials required to produce shop drawings, purchase, deliver, handle, store, install, service, and place materials and equipment purchased under an allowance into continuous reliable service, shall be included in the Contractors' Bid Proposal.

E. Types of allowances include the following:

1. Quantity Allowances.

2. Contingency Allowance.

1.02 SUBMITTALS (NOT APPLICABLE)

1.03 QUANTITY ALLOWANCES

A. Allowance shall include cost to Contractor of specific products, installation labor and equipment and shall include taxes, freight, and delivery to Project site as well as general conditions, labor burden, bonds, overhead and profit.

B. See Schedule at end of this section.

1.04 CONTINGENCY ALLOWANCES

A. Allowance shall include an amount that may be used by Owner for unforeseen conditions and changes in the Work at the Owner's discretion.

B. Use of Allowance funds must be authorized in advance by Owner in writing.

C. See Schedule at end of this section.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION

3.01 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.02 PREPARATION

B. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.03 SCHEDULE OF ALLOWANCES

A. Quantity Allowances shall be established for each item as follows:

1. New matching concrete capstones on either the east or west side gable-end parapet walls: 11 lineal feet.

2. New matching concrete capstones on either the north or south side parapet walls: 11 lineal feet.

3. New matching concrete capstones on either the Tower's east or west side gable-end parapet walls: 11 lineal feet.

B. **Contingency Allowance shall be established as follows**:

1. Construction Contingency: $50,000.00.

2. Contingency may be omitted from scope prior to contract execution at Owner's discretion.

END OF SECTION

SECTION 01 22 00

UNIT PRICES

PART 1 – GENERAL

1.01 SUMMARY

A. This Section specifies administrative and procedural requirements for unit prices.

1. A unit price is an amount proposed by Bidders and stated on the Bid Form as a price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by Change Order in the event the Work required by the Contract Documents are increased or decreased.

2. Unit prices include all necessary equipment, labor, material, overhead, profit and applicable taxes.

3. Unit prices shall remain valid for the duration of the Project Schedule through Substantial Completion.

B. Schedule: A "Unit Price Schedule" is included at the end of this Section.

1. Any work performed without prior authorization by the Owner's representative specifically designated for this role shall be classified as incidental work and shall not be included in the measurement of quantities for payment.

2. Work-in-place that involves use of established unit prices shall be measured by an independent surveyor or other agent, acceptable to the Contractor, selected by and paid by the Owner.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 UNIT PRICE SCHEDULE

A. Unit Prices shall be established as follows:

1. Provide and install new matching precast concrete capstone on the Main Building's east or west side gable-end parapet walls as replacement for any units that may be damaged during the Work: Per 44-inch long unit.

2. Provide and install new matching precast concrete capstone on north or south side parapet walls as replacement for any units that may be damaged during the Work: Per 48-inch long unit.

3. Provide and install new matching precast concrete capstone on the Tower's east or west side gable-end parapet walls as replacement for any units that may be damaged during the Work: Per 44-inch long unit.

END OF SECTION

SECTION 01 23 00

ALTERNATES

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Alternate bid submission procedures.

C. Documentation of alternates to Contract Sum and Contract Time.

1.02 ACCEPTANCE OF ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. No priority order should be assumed by the bidder.

B. Accepted Alternates will be identified in the Owner-Contractor Agreement.

C. Coordinate related work and modify surrounding work to integrate the Work of each alternative.

1.03 ALTERNATE TYPES

A. All Bid Alternates are intended to be “Additive” or at “No Cost” to the base bid. Indicate Add or Deduct on Bid Proposal Form.

1.04 SCHEDULE OF ALTERNATES

A. Alternates shall be established as follows:

1. After cleaning the exterior brick and concrete trim, apply a silane-siloxane sealant over the east, north, and west facades, including the precast concrete capstones.

2. After all the exterior work is completed and is tested successfully, perform the interior finish repairs including plaster, painting, tiling and trim. If Bid Alternate # 1 is taken, perform this work after that work.

B. Identify Bid Alternate cost on Bid Proposal Form.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01 34 00

SUBMITTALS

PART 1 – GENERAL

1.01 SUBMITTALS

A. The Contractor is responsible for the minimum submittals identified below, which are in addition to submittal requirement found elsewhere in the contract documents. Include full documentation, product data, samples where appropriate, detailed performance comparisons and evaluation, testing laboratory reports where applicable, coordination information for effect on other work and time schedule, cost information for proposed change order, Contractor's general certification of recommended substitution, location of the intended installation of each item, and similar information germane to circumstance.

1. Contractor's review and certification of submittals and shop drawings on the submittal schedule shall follow the below format.

2. The Contractor shall provide the name and qualifications of the individual designated to review and approve submittals and shop drawings prior to forwarding for Designer review. Prior to submittal of any item to the Designer for review, all submittal items are to be reviewed for contract compliance and approved by the Contractor. Each item is to be certified by the Contractor and stamped with the following, or other acceptable stamp, to note compliance review. The Contractor is responsible for ensuring that all submittal items meet the contract requirements. Items which do not bear evidence of Contractor review will be returned without comment:

SUBMITTAL / SHOP DRAWING REVIEW AND CERTIFICATION

Contractor: _____

Project: _____

_____ No exceptions noted

_____ Approved with minor corrections as noted on the submittal data or attachments

_____ Other - See Comments / Remarks

Signed: _____
Contractor Project Manager

Date: _____

B. Submittals During Contract Award and Mobilization Period:

1. List of Subcontractors: Within 7 days of Contract Award.
2. Executed Agreement and supporting documents prior to Notice to Proceed with work.
3. Certificates of Insurance prior to Notice to Proceed with work.
4. Construction Schedule: Within 30 days after Notice to Proceed and prior to first application for payment.
5. Schedule of Values: Within 30 days of execution of the Agreement and prior to first application for payment. Identify each major work activity, contract allowance, and trade on separate lines. Do not combine work of more than one subcontractor on a single line.
6. List of Submittals: Within 30 days of Contract Award and prior to submittal of any shop drawings for review.

C. Submittals During the Construction Period and Prior to Substantial Completion:

1. Shop Drawings, Cut Sheets, Data and Manufacturer Certifications, Warranty Samples:
    a. General: Prior to fabrication, shipment to the job site, or installation.
    b. Schedule submittals based on length of lead time. Materials with the longest lead time should be submitted first.
    c. Prior to fabrication, the Contractor shall submit for review complete assembly drawings that show and dimension each major component of equipment and identify all materials of construction.
    d. The Contractor shall verify by written statement on the cover sheet of each submittal that the proposed product or equipment complies with the contract documents. Clearly list any exception on the shop drawings.
    e. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility connection requirements.
    f. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
    g. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
        1) For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.
    h. Submittals for items specified as a package, group, or system shall be made as a single bound submittal. Otherwise, all submittals shall be for individual items or systems.

i. Contractor's schedule shall allow 10 calendar days for each review for each submittal.

2. Applications for Partial Payment: Submit monthly if work is performed.

3. Sales Tax Forms: Submit monthly with Applications for Payment.

4. Insurance Renewal Certificates: Submit prior to expiration of previous certificate.

5. Documentation related to change orders as required.

6. Monthly Progress Report:

   a. Meeting minutes from previous monthly progress meeting.

   b. List of Work progress during the past month.

   c. List of Work scheduled for following month.

   d. List of RFI's and status.

   e. List of Submittals and status.

   f. List of Supplemental Instructions received

   g. Summary of construction contract value, Change Order requests and Change Orders approved.

   h. One (1) day prior to the monthly progress meeting, submit report electronically to the Designer and Owner in PDF format.

   i. Deliver hardcopies to the Owner and Architect at the monthly progress meeting.

D. Submittals Prior to Project Closeout:

   1. See requirements found elsewhere in Division 1.

PART 3 – PRODUCTS (NOT APPLICABLE)

PART 4 – EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01 35 91

HISTORIC TREATMENT PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
summary

B. Section includes general protection and treatment procedures for designated historic spaces, areas, rooms, and surfaces in Project.

1.02 DEFINITIONS

A. Consolidate: To strengthen loose or deteriorated materials in place.

B. Design Reference Sample: A sample that represents Architect's Prebid selection of work to be matched; it may be existing work or work specially produced for Project.

C. Dismantle: To disassemble or detach a historic item from a surface, or a non-historic item from a historic surface, using gentle methods and equipment to prevent damage to historic items and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

D. Historic: Spaces, areas, rooms, surfaces, materials, finishes, and overall appearance that are important to the successful preservation rehabilitation restoration as determined by Architect. Designated historic surfaces are indicated on Drawings.

E. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by Architect.

F. Refinish: To remove existing finishes to base material and apply new finish to match original, or as otherwise indicated.

G. Reinstall: To protect removed or dismantled item, repair and clean it as indicated for reuse, and reinstall it in original position, or where indicated.

H. Remove: To take down or detach a non-historic item located within a historic space, area, or room, using methods and equipment to prevent damage to historic items and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

I. Repair: To correct damage and defects, retaining existing materials, features, and finishes while employing as little new material as possible. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.

J. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.

K. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.

L. Reproduce: To fabricate a new item, accurate in detail to the original, and from either the same or a similar material as the original, unless otherwise indicated.

M. Restore: To consolidate, replicate, reproduce, repair, and refinish as required to achieve the indicated results.

N. Retain: To keep existing items that are not to be removed or dismantled.

O. Reversible: New construction work, treatments, or processes that can be removed or undone in the future without damaging historic materials unless otherwise indicated.

P. Salvage: To protect removed or dismantled items and deliver them to Owner ready for reuse.

Q. Stabilize: To provide structural reinforcement of unsafe or deteriorated items while maintaining the essential form as it exists at present; also, to reestablish a weather-resistant enclosure.

R. Strip: To remove existing finish down to base material unless otherwise indicated.

1.03 COORDINATION

A. Pedestrian and Vehicular Circulation: Coordinate historic treatment work with circulation patterns within Project building(s) and site. Some work is near circulation patterns . Circulation patterns cannot be closed off entirely, and in places can be only temporarily redirected around small areas of work. Plan and execute the Work accordingly.

1.04 MATERIALS OWNERSHIP

A. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered or uncovered during the Work, regardless of whether they were previously documented, remain Owner's property.

1. Notify Architect if historic materials are uncovered during demolition. Dismantle and salvage each item or object and protect it from damage, then promptly deliver it to Owner where directed at Project site .

2. Coordinate with Owner's representative (Building Owner) who will establish special procedures for dismantling and salvaging.

1.05 INFORMATIONAL SUBMITTALS

A. Preconstruction Documentation: Document preexisting conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by Contractor's historic treatment operations.

1.06 QUALITY ASSURANCE

A. Safety and Health Standard: ANSI/ASSE A10.6.

1.07 STORAGE AND HANDLING OF HISTORIC MATERIALS

A. Salvaged Historic Materials:

1. Clean loose dirt and debris from salvaged historic items unless more extensive cleaning is indicated

2. Pack or crate items after cleaning; cushion against damage during handling. Label contents of containers.

3. Store items in a secure area designated by Owner.

B. Existing Historic Materials to Remain: Protect construction indicated to remain against damage and soiling from construction work. Where permitted by Architect, items may be dismantled and taken to a suitable, protected storage location during construction work and reinstalled in their original locations after historic treatment and construction work in the vicinity is complete

C. Storage: notify Building Owner who will coordinate storage.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 PROTECTION

A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from historic treatment procedures.

1. Use only proven protection methods, appropriate to each area and surface being protected.
2. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where historic treatment work is being performed.
3. Erect temporary barriers to form and maintain fire-egress routes.
4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during historic treatment work.
5. Contain dust and debris generated by historic treatment work and prevent it from reaching the public or adjacent surfaces.
6. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.

B. Temporary Protection of Historic Materials:

1. Protect existing historic materials with temporary protections and construction. Do not remove existing materials unless otherwise indicated.
2. Do not attach temporary protection to historic surfaces except as indicated as part of the historic treatment program and approved by Architect.

C. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.

D. Utility and Communications Services:

1. Notify Owner, Architect, authorities having jurisdiction, and entities owning or controlling wires, conduits, pipes, and other services affected by historic treatment work before commencing operations.
2. Maintain existing services unless otherwise indicated; keep in service and protect against damage during operations. Provide temporary services during interruptions to existing utilities.

E. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is functioning properly.

1. Prevent solids such as stone or mortar residue or other debris from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from historic treatment work.
2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

F. Existing Roofing: Prior to the start of work in an area, install roofing protection.

3.02 PROTECTION FROM FIRE

A. Follow fire-prevention plan and the following:

1. Comply with NFPA 241 requirements unless otherwise indicated.
2. Remove and keep area free of combustibles, including rubbish, paper, waste, and chemicals, unless necessary for the immediate work.
    a. If combustible material cannot be removed, provide fire blankets to cover such materials.
3. Prohibit smoking by all persons within Project work and staging areas except where specifically designated for smoking.

3.03 PROTECTION DURING APPLICATION OF CHEMICALS

A. Protect motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm or spillage resulting from applications of chemicals and adhesives.

B. Cover adjacent surfaces with protective materials that are proven to resist chemicals selected for Project unless chemicals being used will not damage adjacent surfaces as indicated in historic treatment program. Use covering materials and masking agents that are waterproof and UV resistant and that will not stain or leave residue on surfaces to which they are applied. Apply protective materials according to manufacturer's written instructions. Do not apply liquid masking agents or adhesives to painted or porous surfaces. When no longer needed, promptly remove protective materials.

C. Do not apply chemicals during winds of sufficient force to spread them to unprotected surfaces.

D. Neutralize alkaline and acid wastes and legally dispose of off Owner's property.

E. Collect and dispose of runoff from chemical operations by legal means and in a manner that prevents soil contamination, soil erosion, undermining of paving and foundations, damage to landscaping, or water penetration into building interior.

3.04 GENERAL HISTORIC TREATMENT

A. Have historic treatment work performed only by qualified historic treatment specialists.

B. Ensure that supervisory personnel are present when historic treatment work begins and during its progress.

C. Perform regular inspections of Project site as the Work progresses to detect hazards resulting from historic treatment procedures.

D. Follow the procedures in subparagraphs below and procedures approved in historic treatment program unless otherwise indicated:

1. Retain as much existing material as possible; repair and consolidate rather than replace.
2. Use additional material or structure to reinforce, strengthen, prop, tie, and support existing material or structure.
3. Use reversible processes wherever possible.
4. Use historically accurate repair and replacement materials and techniques unless otherwise indicated.
5. Record existing work before each procedure (preconstruction) and progress during the work with digital preconstruction documentation photographs.

E. Notify Architect after demolition of non-historic elements of visible changes in the integrity of material or components whether from environmental causes including biological attack, UV degradation, freezing, or thawing or from structural defects including cracks, movement, or distortion.

1. Do not proceed with the work in question until directed by Architect.

F. Where missing features are indicated to be repaired or replaced, provide work with appearance based on accurate duplications rather than on conjecture, subject to approval of Architect.

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

A. Contractor shall provide temporary services and facilities for use by all construction personnel as well as the Designer and Owner's field representatives, except as otherwise herein specified. Do not remove temporary facilities until authorized use of permanent facilities.

1.02 USE CHARGES

A. Water, sewer and electrical power utilities currently available at the building may be used by the Contractor at the Owner's expense. Any utilities required by the Work that are not currently available at the building must be furnished and paid for by the Contractor.

1.03 REGULATIONS AND LIMITATIONS

A. Comply with requirements of the Town, local laws and regulations governing construction and local industry standards, in the installation and maintenance of temporary services and facilities.

B. The Contractor shall be limited to work within the property limits of the site and shall be responsible for and take necessary precautions to avoid damage to all adjacent property.

1.04 FIELD OFFICE

A. General Contractor's Field Office: The General Contractor may provide facilities within the designated Staging Areas to accommodate the Contractor's personnel at the site. Provision of a Contractor's field office is optional. If provided, it must be located within the designated Staging Areas.

C. Field Offices for Subcontractors: No exterior field offices are allowed on site for Subcontractors.

1.05 SANITARY FACILITIES

A. Sanitary facilities include temporary toilets for construction personnel of all prime contractors.

1. Supply toilet tissue, paper towels, paper cups and similar disposable materials as appropriate for each facility. Provide appropriate covered waste containers for used material.

2. Toilets: Install single occupant self-contained toilet units of the chemical, aerated recirculation or combustion type, properly vented and fully enclosed with glass fiber reinforced polyester shell.
3. Use of existing facilities is prohibited.

B. Drinking Water: Provide tap-dispenser bottled-water type drinking water units for personnel of Contractors and all subcontractors.

1.10 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Maintain site in a safe, lawful and publicly acceptable manner. Contractor and each subcontractor shall be responsible for security of their own office and storage facilities.

1.11 BARRICADES, WARNING SIGNS AND LIGHTS

A. Comply with recognized standards and code requirements for erection of substantial, barricades where needed to prevent accidents. Paint with appropriate colors, graphics and warning signs to inform personnel at the site and the public, of the hazard being protected against. Provide lighting where needed, including flashing red lights were appropriate.

B. Erect and maintain temporary barricades to limit non-construction personnel access to hazardous areas. Barricades will be required whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Securely place barricades clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

1.12 TEMPORARY FENCING

A. Provide 8-foot high temporary fencing around any exterior staging areas used by the Contractor in order to control access by unauthorized people. Fencing must be installed to be able to restrain a force of at least 250 pounds against it.

1.13 EMPLOYEE PARKING

A. Contractor employees will park privately owned vehicles within the designated Contractor Parking areas. If this area does not afford sufficient space, then the Contractor shall provide a means for transporting his workers to the construction site that is acceptable to the Owner

1.14 MAINTENANCE OF TRAFFIC

A. Maintain and protect traffic on all affected public roads during the construction period. Measures for the protection and diversion of traffic, including the provision of watchmen and flagmen, erection of barricades, placing of lights around and in front of equipment the work, and the erection and maintenance of adequate warning, danger, and direction signs, will be as required by the State and local authorities having jurisdiction. Minimize the interference with public traffic on roads selected for hauling material to and from the site. Investigate the adequacy of existing roads and their allowable load limit.

B. Contractor is responsible for the repair of any damage to roads caused by construction operations.

1.15 DUST CONTROL

A. Dust control methods and procedures must be used so as to not interfere with the ongoing building occupancy and adjoining facilities and grounds. Treat dust abatement on access roads with applications of calcium chloride, water sprinklers, or similar methods or treatment.

B. Erect and maintain temporary dust-control barriers within Public areas to isolate Work from ongoing operations.

1.16 MAINTENANCE

A. Operate and maintain temporary services and facilities in good operating condition and in a safe and efficient manner until removal is authorized. Do not overload services or facilities. Protect from damage by freezing temperatures and similar elements. Do not allow unsanitary conditions, public nuisances or hazardous conditions to develop or persist on the site.

1.17 TERMINATION AND REMOVAL

A. Remove each temporary service and facility promptly when need has ended, or when replaced by use of a permanent facility, but no later than Substantial Completion.

B. Complete, or, if necessary, restore permanent work delayed because of interference with the temporary service or facility. Repair damaged work, clean exposed surfaces and replace work which cannot be repaired.

C. At Substantial Completion, clean and renovate permanent services and facilities that have been used to provide temporary services and facilities during the construction period.

1.18 SAFETY MEASURES

A. In addition to complying with safety requirements set forth in the Contract, the Contractor shall:

1. Inform itself of and fully comply with all applicable requirements of the Williams-Steiger Occupational Safety and Health Act of 1970 in the performance of work required under this contract.
2. The Contractor shall adhere to the rules, regulations, and interpretations of the Secretary of the Department of Labor relating to safety and health for construction which are hereby incorporated into these requirements.
3. Follow all rules set out in the regulations and recommendations published by the Associated General Contractors and the North Carolina Department of Labor,

and the Contractor shall use every effort to safeguard life and property throughout his operations.

1.19 CONSTRUCTION SIGNAGE

A. No Project signage is allowed, except as noted below.

B. Directional signs for material deliveries are allowed within the construction area, if required, and shall be 4’ wide x 2’ high maximum, black and white only. The Owner shall approve the design of the sign and the sign text prior to fabrication.

C. Signage shall be professionally-crafted.

D. Signage shall be properly erected so as to resist wind-loads and is to be maintained in good condition throughout the work.

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Transportation, handling, storage and protection.

C. Product option requirements.

D. Substitution limitations and procedures.

E. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

A. Section 01 34 00 Submittals.

B. 16 CFR 260 - Guides for the Use of Environmental Marketing Claims; Federal Trade Commission; current edition.

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

PART 2 - PRODUCTS

2.01 NEW PRODUCTS

A. General:
   1. Manufacture parts to U.S.A. standard sizes and gauges.
   2. Two or more items of the same type shall be identical, by the same manufacturer, and interchangeable.
   3. When equipment is expected to generate or be subjected to movement, ensure that parts are fabricated to withstand anticipated shock and vibratory loads.
   4. Use 1/4-inch minimum thickness for steel that will be submerged, wholly or partially, during normal operation.
   5. Modify standard products as necessary to meet performance specifications.

B. Provide new products unless specifically required or permitted by the Contract Documents.

C. Like items of products furnished and installed in the Work shall be end products of one manufacturer and of the same series or family of models to achieve standardization for appearance, operation and maintenance, spare parts and replacement, manufacturer's services, and implement same or similar process instrumentation and control functions in same or similar manner.

D. Do not use products having any of the following characteristics:

1. Made using or containing CFC's or HCFC's.
2. Made of wood from newly cut, old-growth timber.

E. Where all other criteria are met, Contractor shall give preference to products that:

1. Are extracted, harvested, and/or manufactured closer to the location of the Project.
2. Have longer documented life span under normal use.
3. Result in less construction waste.
4. Are more readily serviceable at the location of the Project.

2.02 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

D. See PART 3 – EXECUTION for Substitution Procedures.

2.03 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, and software of types and in quantities specified in individual specification sections.

B. Deliver and place in location as directed; obtain receipt prior to final payment.

2.03 SOURCE QUALITY CONTROL

A. Where Specifications call for field testing to be witnessed by Engineer/Owner, notify Engineer/Owner not less than 14 days prior to scheduled test date, unless otherwise specified.

B. Field Tests: Perform in accordance with accepted test procedures and document successful completion.

PART 3 - EXECUTION

3.01 SUBSTITUTION PROCEDURES

A. Architect/Engineer will not consider requests for substitutions made later than 10 days prior to the bid date.

C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

D. Include side by side comparison of both specified product and proposed substitution.

E. A request for substitution constitutes a representation that the submitter:

1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.

2. Will provide the same warranty for the substitution as for the specified product.
3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
4. Waives claims for additional costs or time extension that may subsequently become apparent.

F. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require substantial revision to the Contract Documents.

G. Substitution Submittal Procedure:

1. Submit one digital (PDF) copy of request for substitution for consideration. Limit each request to one proposed product substitution.
2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
3. The Architect/Engineer will document approved product substitutions in written form. Product substitutions that are not approved will not result in any action on the part of the Architect/Engineer.

F. The term “Or Equal” shall have the following meaning: To possess same performance qualities and characteristics, and fulfill the utilitarian function without any decrease in quality, durability, or longevity. No inference that items must be identical in all respects, if above conditions are met.

3.02 TRANSPORTATION AND HANDLING

A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

B. Transport and handle products in accordance with manufacturer's instructions.

C. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

3.06 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule, and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

G. Prevent contact with material that may cause corrosion, discoloration, or staining.

H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

J. Hazardous Materials:

1. The Contractor is to maintain a 3-ring binder containing a regularly updated index of chemicals and Material Safety Data Sheets (MSDS) at the Site. Include MSDS sheets for all chemicals being used on the project. Update MSDS's for new chemicals as each new chemical arrives.
2. Prevent contamination of personnel, storage area, and Site. Meet requirements of product specification, codes, and manufacturer's instructions.

END OF SECTION

SECTION 01 73 29

CUTTING AND PATCHING

PART 1 – GENERAL

1.01 DEFINITIONS

A. "Cutting and patching" includes cutting into existing construction to provide for the installation or performance of other work and subsequent fitting and patching required to restore surfaces to their original condition.

B. Refer to other sections of these specifications for specific cutting and patching requirements and limitations applicable to individual units of work.

1.02 STRUCTURAL WORK

A. Do not cut-and-patch structural work in a manner resulting in a reduction of load-carrying capacity or load/deflection ratio. Submit proposal and request and obtain Engineer's approval before proceeding with cut-and-patch of structural work.

1.03 OPERATIONAL/SAFETY LIMITATIONS

A. Do not cut-and-patch operational elements and safety components in a manner resulting in decreased performance, shortened useful life, or increased maintenance.

1.04 VISUAL/QUALITY LIMITATIONS

A. Do not cut-and-patch work exposed to view (exterior and interior) in a manner resulting in noticeable reduction of aesthetic qualities, as judged by the Architect taking into consideration the specific Work conditions.

B. Engage qualified personnel skilled in cutting, patching, removal, and replacement of specialized equipment and finish surfaces.

C. Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. Remove and replace construction cut and patched in a visually unsatisfactory manner.

1.05 LIMITATIONS ON APPROVALS

A. The Architect’s or Engineer's approval to proceed with cutting and patching does not waive right to later require removal/replacement of work found to be cut-and-patched in an unsatisfactory manner, as judged by the Architect taking into consideration the specific Work conditions.

1.06 WARRANTY

A. Replace, patch, and repair materials and surfaces cut or damaged by methods and with materials in such a manner as not to void any required or existing warranties.

PART 2 – PRODUCTS

2.01 MATERIALS GENERAL

A. Use materials for cutting and patching that are identical to existing materials. If identical materials are not available or cannot be used, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials for cutting and patching that will result in equal-or-better performance characteristics.

PART 3 – EXECUTION

3.01 INSPECTION

A. Before cutting, examine surfaces to be cut and patched and conditions under which the work is to be performed. Meet at the Project site with parties involved in cutting and patching, including mechanical and electrical trades, to review areas of potential interference and conflict. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding with the work.

3.02 TEMPORARY SUPPORT

A. To prevent failure, provide temporary support of work to be cut.

3.03 PROTECTION

A. Protect other work during cutting and patching to prevent damage. Provide protection from adverse weather conditions for that part of the project that may be exposed during cutting and patching operations.

B. Avoid interference with use of adjoining areas or interruption of free passage to adjoining area.

C. Take precautions not to cut existing pipe, conduit, or duct serving existing building or equipment but scheduled to be relocated until provisions have been made to bypass them.

D. Schedule cutting so that subsequent Work in the same area immediately follows cutting operations.

E. Avoid cutting openings that are potential locations for intrusion of water, vermin, dust or other deleterious substances.

3.04 CUTTING

A. Use the cutting methods that are least likely to damage work to be retained or adjoining work. Where possible, review proposed procedures with the original installer; comply with original installer's recommendations.

B. Where cutting is required, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut through concrete and masonry using a cutting machine such as a carborundum saw or core drill. Cut holes and slots neatly to size required with minimum disturbance of adjacent work. To avoid marring existing finished surfaces, cut and drill from the exposed or finished side into concealed surfaces. Temporarily cover openings when not in use.

3.05 PATCHING

A. Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.

B. Restore exposed finish of patched areas, and where necessary extend finish restoration into retained adjoining work in a manner which will eliminate evidence of patching and refinishing.

1. Patch all concrete slab areas to leave flush smooth patch even with adjacent existing surfaces. Grind and/or use leveling compounds to match existing slab.
2. Where removing walls or partitions extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
3. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken area surface contain the patch after the area has received primer and second coat.

3.06 REPAIR OF DAMAGE

A. Repair equipment and finish surfaces damaged as the result of the work of this contract to the satisfaction of the Owner or replace with new material at no additional cost to the Owner.

3.07 CLEANING

A. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty or similar items. Thoroughly clean piping, conduit and similar

features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

END OF SECTION

SECTION 01 78 00

CLOSEOUT PROCEDURES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:

1. Inspection procedures.
2. Project record document submittal.
3. Operating and maintenance manual submittal.
4. Submittal of warranties.
5. Final cleaning.

B. Other closeout requirements for specific construction activities are included in the appropriate Sections in Divisions 2 through 26.

1.03 PRELIMINARY SUBMISSIONS

A. Submit the following for approval prior to submission of Application for Payment that equates to a Total Completed and Stored to date amount equaling 90% of the Contract Sum to Date and prior to requesting a final review for certification of Substantial Completion.

1. Shop Drawings copies for Owner: Submit a complete set of legible Contractor approved, Architect reviewed, shop drawings in PDF format on electronic media.

1.04 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion and before submitting an Application for Payment that equates to a Total Completed and Stored to date amount equaling 95% of the Contract Sum to Date, complete the following.

1. Contractor’s Final Inspection: Contractor shall fully inspect the work with Contractor’s project manager, superintendent and subcontractor’s managers to verify that the work is ready for Architect’s final inspection.

2. Contractor will inspect the Work and issue typewritten pre-final punchlist. Contractor must correct each non-complying item. Contractor will document correction of each item by initialing approval, dating, and sending Architect copy of initialed items. It is the Contractor's responsibility to manage the proper structural and technical installation of all exposed finishes. The Contractor must also assure the quality of the workmanship of all finishes. Do not wait, for or attempt to, use Architect's final inspection to identify unacceptable quality workmanship.

B. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.

1. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.

3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.

4. Submit final project photographs, damage or settlement survey, property survey, and similar final record information.

5. Deliver tools, spare parts, extra stock, and similar items.

6. Complete final clean up requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.

7. Complete equipment and operating and maintenance instruction and training of Owner's staff in accordance with Division 1 requirements. Demonstrate: Emergency instructions, spare parts list, copies of warranties, wiring diagrams, recommended turn around" cycles, inspection procedures, shop drawings and product data, fixture lamping schedule, maintenance manuals, record documents, spare materials, tools, lubricants, fuels, identification systems, control sequences, hazards, cleaning, warranties and bonds, maintenance agreements and similar commitments, start-up, shut-down, emergency operations, noise and vibration adjustments, safety procedures, economy and efficiency adjustments and effective energy utilization. Document training occurrence for the Owner's records.

C. Final Inspection Procedures: For each portion of the Work to be deemed as Substantially Complete the Architect will perform one continuous pre-final inspection. The Architect's pre-final inspection shall occur only after the Contractor has completed the Work, conducted their own pre-final inspection, have created their own pre-final punch list, and have requested a pre-final inspection. On receipt of a request for pre-final inspection, the Architect will either proceed with inspection or advise the Contractor of unfilled requirements. The Architect will prepare the Certificate of Substantial Completion following inspection, or advise the Contractor of Work that must be completed or corrected before the certificate will be issued. Results of the Architect's pre-final review will form the initial punchlist.

1. Incomplete work by the Contractor or work that is not of quality, in the opinion of the Architect, will delay the final inspection until that work is completed or corrected throughout. The Architect performing routine field reviews will be the sole judge of readiness for the final inspection. Routine field reviews by the Architect and/or a pre-final inspection of a pre-arranged sample building area will identify incomplete or non-complying items, all of which must be corrected throughout entire contract area prior to requesting a final inspection.

2. The final inspection will be a single continuous effort for each portion of the Work put forth by the Contractor as Substantially Complete. Contractor shall have all finishes complete, building clean, roof complete, windows in place and all plumbing, fire protection, mechanical and electrical systems completely operational. Contractor shall provide ladders, scaffolds, keys, drop cord lights, swing stages or other equipment and manpower necessary to complete the final inspection in a timely manner. Contractor's project manager and superintendent will accompany the Architect at all times during the final inspection. Contractor will identify each room by contract document number on temporary tape on door hinges. Tape will remain until every item on punchlist is corrected and then be removed by Contractor. Contractor will bring bound field reports, specifications, addenda, construction change directives, change orders and record prints along on final inspection.

3. Correct or complete all non-complying items.

4. Submit copies of the final punchlist of itemized work to be completed or corrected. Contractor's project manager or superintendent must inspect, approve and initial completion or correction of each punchlist item.

5. Punchlist Inspection: The review of the punchlist will also be a single continuous effort for each portion of the Work put forth by the Contractor as Substantially Complete.

1.05 FINAL ACCEPTANCE

A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.

1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.

2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.

3. Submit consent of surety to final payment.

4. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

5. Submit As-Built documents to Architect.

6. Submit lien waivers in a format acceptable to the Owner.

7. Deliver attic maintenance stocks and overruns of materials at one time to location(s) designated by the Owner. Submit inventory lists and obtain written acceptance from the Owner.

8. Submit to Architect a Final Project Tally Sheet in both PDF and MS Word or RichText file format indicating original Contract Price and Time, all changes to Price and time made by Change Order, and final Contract Price and Time.

1.06 AS-BUILT DOCUMENT SUBMITTALS

A. General: Do not use as-built documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Architect's reference during normal working hours.

B. As-built Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.

1. Mark as-built sets with a distinguishable color.

2. Mark new information that is important to the Owner, but was not shown on Contract Drawings or Shop Drawings.

3. Organize as-built drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set.

4. Record Product Data: Where applicable, mark Product Data submittal to show significant variations in actual Work performed in comparison with information submitted. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned later by direct observation.

C. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the Work.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION

3.01 FINAL CLEANING

A. General: General cleaning during construction is required by the Supplementary Conditions and included in Section "Temporary Facilities".

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

1. Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion.

   a. Remove labels that are not permanent labels.

   b. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compound and other substances that are noticeable vision-obscuring materials. Replace chipped, broken or scratched glass and other damaged transparent materials.

   c. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances. Restore reflective surfaces to their original reflective condition. Leave concrete floors broom clean. Vacuum carpeted surfaces. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.

   d. Clean the site, including landscape development areas, of rubbish, litter and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface. Clean all sidewalks thoroughly.

C. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.

D. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.

1. Where extra materials of value remaining after completion of associated Work have become the Owner's property, arrange for disposition of these materials as directed.

END OF SECTION

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SECTION 02 41 19

SELECTIVE DEMOLITION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of building elements for repair purposes.

1.02 RELATED REQUIREMENTS

A. Section 01 11 00 - Summary: Limitations on Contractor's use of site and premises.

B. Section 01 35 91 – Historic Treatment Procedures: General protection and treatment procedures for designated historic spaces.

C. Section 01 50 00 - Temporary Facilities and Controls: Site security, protective barriers, and waste removal.

D. Section 01 60 00 - Product Requirements: Handling and storage of items removed for salvage and relocation.

1.03 REFERENCE STANDARDS

A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.

B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; Latest Version.

1.04 DEFINITIONS

A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.

B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.

C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.

D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.05 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1.07 QUALITY ASSURANCE

A. Demolition Firm Qualifications: Engage an experienced firm that has successfully completed selective demolition Work similar to that indicated for this Project.

1.08 PROJECT CONDITIONS

A. Owner will occupy the building during selective demolition. Conduct selective demolition so that Owner's operations will not be disrupted. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

B. Owner assumes no responsibility for actual condition of building materials to be selectively demolished.

1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

C. Sale of removed items or materials is not permitted.

D. Items temporarily removed and awaiting re-installation are to be securely stored within the indicated Staging Areas, so as not to interfere with Owner’s operation of the facility. Contractor shall remain responsible for the security of temporarily stored materials.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 SCOPE

A. Remove portions of existing building and site as noted.

B. Remove other items indicated, for salvage, relocation, and recycling as indicated.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Sequence demolition to allow continuous operation of the facility throughout the Work.

B. Provide a minimum of 48 hours' notice to Owner before any utility service interruption. Do not proceed with service interruption without written approval of Owner.

C. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.

1. Comply with applicable requirements of NFPA 241.

2. Use of explosives is not permitted.

3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.

4. Provide, erect, and maintain temporary dust barriers and security devices.

5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.

6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.

7. Do not close or obstruct roadways or sidewalks without permit.

D. Do not begin removal until receipt of notification to proceed from Owner.

E. Protect existing structures and other elements that are not to be removed.

1. Provide temporary bracing and shoring as necessary.

2. Prevent movement or settlement of adjacent structures.

3. Stop work immediately if structures appear to be in danger.

F. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

G. Hazardous Materials: Comply with 29 CFR 1926 and state and local regulations.

H. Perform demolition in a manner that maximizes salvage and recycling of materials.

1. Dismantle existing construction and separate materials.

2. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

3. Owner has right of first refusal on all salvageable items.

3.03 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Drawings showing existing construction are based on Owner's Existing Record Documents.

1. Verify that construction arrangements are as shown.

2. Report discrepancies to Architect before disturbing existing installation.

3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.

C. Remove existing work as indicated and as required to accomplish new work.

1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction where specified.

2. Remove items indicated on drawings.

D. Protect existing work to remain.

1. Prevent movement of structure; provide shoring and bracing if necessary.

2. Perform cutting to accomplish removals neatly and as specified for cutting new work.

3. Repair adjacent construction and finishes damaged during removal work.

4. Patch as specified for patching new work.

3.04 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site on a regular basis.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 04 03 10

HISTORIC MASONRY CLEANING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section includes historic treatment work consisting of cleaning historic clay brick masonry surfaces.

B. Related Requirements:

1. Section 013591 "Historic Treatment Procedures" for general historic treatment requirements.

1.03 DEFINITIONS

A. Very Low-Pressure Spray: Less than 100 psi.

B. Low-Pressure Spray:

1. Pressure: 100 to 400 psi.
2. Flow Rate: 4 to 6 gpm.

C. Medium-Pressure Spray:

1. Pressure: 400 to 800 psi.
2. Flow Rate: 4 to 6 gpm.

D. High-Pressure Spray:

1. Pressure: 800 to 1200 psi.
2. Flow Rate: 4 to 6 gpm.

1.05 SEQUENCING AND SCHEDULING

A. Work Sequence: Perform historic masonry cleaning work in the following sequence:

1. Remove plant growth.
2. Inspect masonry for open mortar joints. Where repairs are required, delay further cleaning work until after repairs are completed, cured, and dried to prevent intrusion of water and other cleaning materials into the wall.
3. Remove paint.
4. Clean masonry.

1.06 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include material descriptions and application instructions.
2. Include test data substantiating that products comply with requirements.

1.07 QUALITY ASSURANCE

A. Chemical-Cleaner Manufacturer Qualifications: A firm regularly engaged in producing masonry cleaners that have been used for similar applications with successful results, and with factory-authorized service representatives who are available for consultation and Project-site inspection and on-site assistance.

1.08 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit masonry cleaning work to be performed according to product manufacturers' written instructions and specified requirements.

B. Clean masonry surfaces only when air temperature is 40 deg F and above and is predicted to remain so for at least seven days after completion of cleaning.

PART 2 - PRODUCTS

2.01 CLEANING MATERIALS

A. Water: Potable.

B. Nonacidic Liquid Cleaner: Manufacturer's standard mildly alkaline liquid cleaner formulated for removing mold, mildew, and other organic soiling from ordinary building materials, including polished stone, brick, aluminum, plastics, and wood.

1. Basis of Design: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to,

the following:

a. Enviro Klean 2010 All Surface Cleaner by PROSOCO, Inc.

2.02 ACCESSORY MATERIALS

A. Liquid Strippable Masking Agent: Manufacturer's standard liquid, film-forming, strippable masking material for protecting glass, metal, glazed masonry, and polished stone surfaces from damaging effects of acidic and alkaline masonry cleaners.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. American Building Restoration Products, Inc.
b. PROSOCO, Inc.

B. Other Products: Select materials and methods of use based on the following, subject to approval of a mockup:

1. Previous effectiveness in performing the work involved.
2. Minimal possibility of damaging exposed surfaces.
3. Consistency of each application.
4. Uniformity of the resulting overall appearance.
5. Do not use products or tools that could do the following:

a. Remove, alter, or harm the present condition or future preservation of existing surfaces, including surrounding surfaces not in contract.
b. Leave residue on surfaces.

2.03 CHEMICAL-CLEANING SOLUTIONS

A. For general cleaning dilute chemical cleaners with water in a 4 parts cleaner to 10 parts water ratio to produce solutions as recommended in writing by chemical-cleaner manufacturer.

B. For heavy duty cleaning use chemical cleaners full-strength as recommended in writing by chemical-cleaner manufacturer.

PART 3 - EXECUTION

3.01 PROTECTION

A. Remove or fully protect signage, light fixtures, downspouts and associated hardware, and all other items subject to damage from the cleaning process that are adjacent to immediate work area and store during masonry cleaning. Reinstall when masonry cleaning is complete.

3.02 CLEANING MASONRY, GENERAL

A. Have cleaning work performed only by qualified historic treatment specialist.

B. Cleaning Appearance Standard: Cleaned surfaces are to have a uniform appearance as viewed from 20 feet away by Architect.

C. Proceed with cleaning in an orderly manner; work from top to bottom of each scaffold width and from one end of each elevation to the other. Ensure that dirty residues and rinse water do not wash over dry, cleaned surfaces.

D. Use only those cleaning methods indicated for each masonry material and location.

1. Brushes: Do not use wire brushes or brushes that are not resistant to chemical cleaner being used.
2. Spray Equipment: Use spray equipment that provides controlled application at volume and pressure indicated, measured at nozzle. Adjust pressure and volume to ensure that cleaning methods do not damage masonry.

    a. Equip units with pressure gauges.
    b. For chemical-cleaner spray application, use low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with nozzle having a cone-shaped spray.
    c. For water-spray application, use fan-shaped spray that disperses water at an angle of 25 to 50 degrees.
    d. For heated water-spray application, use equipment capable of maintaining temperature between 140 and 160 deg F at flow rates indicated.

E. Perform each cleaning method in a manner that results in uniform coverage of all surfaces, including corners, moldings, and interstices, and that produces an even effect without streaking or damaging masonry surfaces.

1. Keep wall wet below area being cleaned to prevent streaking from runoff.

F. Perform additional general cleaning, paint and stain removal, and spot cleaning of small areas that are noticeably different when viewed according to "Cleaning Appearance Standard" Paragraph, so that cleaned surfaces blend smoothly into surrounding areas.

G. Water-Spray Application Methods:

1. Water-Soak Application: Soak masonry surfaces by applying water continuously and uniformly to limited area for time indicated. Apply water at low pressures and low volumes in multiple fine sprays using perforated hoses or multiple spray nozzles. Erect a protective enclosure constructed of polyethylene sheeting to cover area being sprayed.
2. Water-Spray Applications: Unless otherwise indicated, hold spray nozzle at least 6 inches from masonry surface, and apply water in horizontal back-and-forth sweeping motion, overlapping previous strokes to produce uniform coverage.

H. Chemical-Cleaner Application Methods: Apply chemical cleaners to masonry surfaces according to chemical-cleaner manufacturer's written instructions; use brush application. Do not

allow chemicals to remain on surface for periods longer than those indicated or recommended in writing by manufacturer.

I. Rinse off chemical residue and soil by working upward from bottom to top of each treated area at each stage or scaffold setting. Periodically during each rinse, test pH of rinse water running off of cleaned area to determine that chemical cleaner is completely removed.

1. Apply neutralizing agent and repeat rinse if necessary to produce tested pH of between 6.7 and 7.5.

J. After cleaning is complete, remove protection no longer required. Remove tape and adhesive marks.

3.03 PRELIMINARY CLEANING

A. Removing Plant Growth: Completely remove visible plant, moss, and shrub growth from masonry surfaces. Carefully remove plants, creepers, and vegetation by cutting at roots and allowing remaining growth to dry as long as possible before removal. Remove loose soil and plant debris from open masonry joints to whatever depth they occur.

B. Preliminary Cleaning: Before beginning general cleaning, remove extraneous substances that are resistant to planned cleaning methods. Extraneous substances include paint, caulking, asphalt, and tar.

1. Carefully remove heavy accumulations of rigid materials from masonry surface. Do not scratch or chip masonry surface.

3.04 CLEANING BRICKWORK

A. Cold-Water Wash: Use cold water applied by low -pressure spray.

B. Nonacidic Liquid Chemical Cleaning:

1. Wet surface with hot water applied by low-pressure spray.
2. Apply cleaner to surface by brush.
3. Let cleaner remain on surface for period recommended in writing by chemical-cleaner manufacturer .
4. Rinse with cold water applied by low -pressure spray to remove chemicals and soil.

3.05 FINAL CLEANING

A. Clean adjacent non-masonry surfaces of spillage and debris. Use detergent and soft brushes or cloths.

B. Remove debris from gutters and downspouts. Rinse off roof and flush gutters and downspouts.

C. Remove masking materials, leaving no residues that could trap dirt.

END OF SECTION

SECTION 06 10 00

ROUGH CARPENTRY

PART 1 - GENERAL

1.01 SUMMARY

A. Scope

1. Rough carpentry items as indicated.

2. Blocking as required to support finished work.

B. Related Work Specified Under Other Sections

1. Finish Carpentry – DIVISION 6.

2. Sheet Metal Flashing & Trim – DIVISION 7.

1.02 QUALITY ASSURANCE

A. Requirements for Preservative Treatment

1. Preservative pressure treated lumber and plywood shall be clean and free of surface deposits.

2. Each piece shall be indelibly ink stamped with the quality mark of an approved independent third-party inspection agency having a follow-up testing and inspection service at the treating plant over the quality of the treated product, and whose service is certified by an approved overview agency such as American Wood Preservative Association (AWPA).

1.03 PROJECT CONDITIONS

A. Deliver and store lumber and plywood at the project site in a manner to minimize exposure to moisture migration.

B. Exercise special care in storing, handling and installation of preservative and fire-retardant treated lumber and plywood so as to prevent moisture absorption of such items.

PART 2 - PRODUCTS

2.01 WOOD MATERIALS

A. General

1. Each piece of lumber shall bear the official trademark and grade of the manufacturer’s association or inspection bureau under which it was manufactured and graded. Lumber shall be seasoned, surfaced four sides and kiln

or air dried to moisture content specified in the association's rules, except that moisture content shall not exceed 19 percent.

B. Lumber Use and Species

1. Furring, Grounds, and Similar Use: Western Wood Products Association (WWPA) "Standard", "Number 2 Common" or better Douglas Fir-Larch, Hem-Fir, Pine, Engelmann Spruce, Cedar; or Southern Pine Inspection Bureau (SPIB) Number 2 Southern Pine.

2. Nailers, Blocking, Framing, Rough Bucks, and Rough Lumber Not Otherwise Specified: Western Wood Products Association (WWPA) "Utility", Number 3 or better Douglas Fir, Hem-Fir, Lodgepole Pine, Western Cedars; or Southern Pine Inspection Bureau (SPIB) Number 2KD Southern Pine.

3. Sheathing: Western Wood Products Association (WWPA) "Number 4 Common" Douglas Fir-Larch, Hem-Fir, Pine, Engelmann Spruce or Cedar.

C. Plywood Use and Species

1. Sheathing: American Plywood Association (APA), PS 1-83 Product Standard, 32/16 Rated Sheathing, Exposure 1, of thickness noted.

2. Exterior Plywood: American Plywood Association (APA), PS 1-83 Product Standard, BB Group 2 Exterior, of thickness noted.

2.02 FASTENING MATERIALS

A. General: Unless otherwise indicated, use fastening materials of types appropriate for the conditions encountered, including wood to wood, wood to masonry or concrete, and wood to metal. Use anchors as shown for securing blocking, nailers and framing. Threaded stud bolts and nuts, or powder actuated fasteners, shall be used for securing wood to structural framing.

B. Screws for Fire Retardant Lumber: Hot-Dipped Galvanized carbon steel, stainless steel, silicon bronze or copper in accordance with ASTM A 153 or ASTM B 695, Class 55 minimum (except for bolts 0.50-inch diameter or larger).

C. Threaded Studs: Threaded studs for securing wood nailers or other items noted, complete with nut and washer.

1. Erico Products, Inc. "Blue Arc Shear Connector Studs", (440-248-0100).

2. Midwest Fasteners, Inc., "Weld Studs", (800-852-8352).

D. Powder Actuated Fasteners: Drive pin type, threaded, of length to penetrate the steel member and depth of wood member, and a washer of sufficient diameter to secure the wood member. Fasteners and low-velocity powder actuated tools by same manufacturer.

1. Hilti, Inc.

2. Ramset, Inc.

E. Nails and Staples: Galvanized carbon steel, per Federal Specification FF-N-105B.

F. Screws for Other Lumber: Galvanized carbon steel per Federal Specification FF-S-107C and natural bright finish carbon steel per Federal Specification FF-S-111C.

G. Bolts, Washers, Expansion Shields, and Nuts: Zinc-coated carbon steel, per Federal Specification FF-B-561C, FF-B-575C, FF-W-92A, FF-B-588C and FF-N-836D.

H. Bar or Strap Anchors: ASTM A36 carbon steel 1/8-inch-thick unless otherwise noted, hot dipped galvanized, with 2.0-ounce zinc coating per square foot of surface, per ASTM A123.

I. Bolt: corrosion resistant threaded J bolt meeting ASTM A 307, Grade A with ASTM A 563 hex nuts and flat washers, diameter of 1/2".

J. Washers: Fasteners heads for screws, anchors and bolts terminating at the surface of nailers shall be 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.

K. Adhesives: Use aliphatic or phenolic resin wood glue for general carpentry; comply with south coast air quality management district requirements for voc limits in adhesives. For wood work 30 grams/liter is the maximum VOC content.

2.03 WOOD TREATMENTS

A. Preservative Treatment

1. Preservative Treatment: Use preservative pressure treated wood nailers, blocking, rough bucks, furring, grounds and other rough lumber items that come in contact with concrete, masonry or metal and are inaccessible in the finished work. Preservative pressure treatment shall be in accordance with American Wood Preservers Association (AWPA) Standards P5, C1, C2 and C9. Each piece shall be stamped with indelible ink with American Wood Preservative Association (AWPA) Quality Mark. Perform all milling along the grain of the wood prior to preservative pressure treatment.
   a. Hickson Corporation, “Wolman-CCA Preservative”.
   b. Hoover Treated Wood Products Inc., “Dixie CCA”.
   c. Osmose Wood Preserving Company of America, Inc. “Osmose CCA”.

PART 3 - EXECUTION

3.01 PREPARATION

A. Provide rough hardware required to complete this Work, including attachments of wood to wood, wood to masonry or concrete and wood to metal. Counterbore holes for nuts and heads of fasteners and countersink all screws so as to be flush. Drill holes in lumber for

fasteners. Furnish rough hardware items, loose, that are scheduled to be pre-set in masonry or concrete, to expedite the installation of such Work.

1. In pressure treated wood, drill undersize holes for screws and nails to prevent splitting of wood members.

B. For back painted members, after any such members are cut in the field, apply a brush coat of the same material used in the shop, to reseal the surface.

C. When preservative pressure treated lumber is cut across the grain in the field, apply preservative to cut end in accordance with American Wood Preservers Association (AWPA) Standard M4 Section 1.5.

D. For fire retardant pressure treated lumber cut across the grain in the field, no supplemental end treatment is required.

E. Field cutting (ripping) along the grain is not allowed for either fire retardant or preservative pressure treated lumber.

3.02 FURRING AND GROUNDS

A. Provide wood furring and grounds required to install wood sheathing, gypsum wall board, gypsum and metal lath, and wood paneling to masonry or concrete. Install in parallel rows, spaced at 16 inches on center; and in addition, to frame the perimeters of such areas and corners. Use nominal 1 inch by 3-inch solid stock unless otherwise noted. At metal lath, provide beveled edge to develop good plaster keys.

B. Secure members rigidly in place, at 2 feet on center, maximum, using flush bolts. Where members are applied over stud partition framing, bolt members in place through the substrate and into the metal stud framing.

3.03 NAILERS, BLOCKING, FRAMING AND ROUGH BUCKS

A. Provide nailers, blocking, framing, rough bucks, sheathing and other rough lumber necessary for a complete installation.

B. Verify with Owner any equipment requiring blocking that will be installed after construction. Provide and install suitable blocking as directed by Owner.

C. Anchor wood members to concrete, masonry, or steel as shown, or required, complete with the fasteners specified. If powder actuated fasteners are used, comply with safety requirement of OSHA and fastener manufacturer. Where size and spacing are not shown or noted, secure members with 1/2-inch diameter bolts or threaded studs; not less than two for each individual piece; and at not more than 24 inches on center, maximum, for continuous members. Provide washers under bolt heads and nuts. Provide nailers and blocking in long lengths to minimize joints. When joints are necessary, join pieces without projecting edges.

D. Lay sheathing close and nail solidly at each bearing; at not over 6 inches on center at continuous bearing members. Stagger end joints of adjacent sheets, with joint over bearings, in all cases.

3.04 INSTALLATION

A. Temporary Ventilation: During and immediately after installation of treated wood, engineered wood products, and laminated wood products at interior spaces, provide temporary ventilation.

B. Waste Management:

1. Select lumber sizes to minimize waste; reuse scrap lumber to the greatest extent possible. Clearly separate scrap lumber for use on site as accessory components, including, shims, bracing and blocking.
2. Do not leave any wood, shavings, sawdust, etc., on the ground or buried in fill. Prevent sawdust and wood shavings from entering the storm drainage system.
3. Do no burn scrap lumber that has been pressure treated.
    a. Do not send lumber treated with pentachlorophenol, CCA or ACA to cogeneration facilities or "waste-to-energy" facilities.

C. Attachment:

1. The Contractor shall 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. Anchor to resist a minimum force of 300 lbs/lineal foot in any direction.
3. Rough carpentry attachment shall meet the requirements herein and that of the current FM Loss Prevention Data Sheet 1-49, Perimeter Flashing.
4. Install bolts flush with the top surface of nailers where possible to avoid countersinking. Bolt bottom nailers then fasten upper nailers where possible. Countersink bolts, nuts and screws flush with wood surfaces only as detailed.
5. Install fasteners without splitting wood. Pre-drill where necessary. Split or damaged wood shall be removed or repaired and/or re-secured 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. Damaged masonry shall be repaired, and fasteners shall be removed and re-installed in an acceptable location.
7. Fastener spacing: Fasteners shall be staggered 1/3 the board width and installed within 6” of each end.

a. Bolts, adhesive anchors, wedge and sleeve anchors, and machine bolts securing nailers shall be spaced 48 inches on center, staggered and an additional fastener within 6 inches of each end of nailer to prevent boards from twisting at board joints. Secure at 24" on center in corners (Zone 3) of the roof area.

b. Screws and 1/4-inch diameter anchors securing wood to concrete or masonry units shall be spaced 12 inches on center maximum, staggered, with fasteners installed at each end of nailer lengths to prevent wood from twisting at board joints.

c. Screws securing wood to wood shall be installed 12 inches apart, staggered, with two screws installed within 6 inches of each end of nailer lengths to prevent wood from twisting at board joints.

d. Screws securing wood to steel decking shall be 12 inches apart.

e. Self-drilling, and/or pre-drilled self-tapping screws securing wood to structural steel shall be spaced 12 inches apart, staggered, with one screw within 6 inches of each end of nailer lengths to prevent wood from twisting at board joints.

f. Nails securing wood to wood shall be 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.

8. Plywood Sheathing Securement: Secure at 12” on center staggered each direction.

D. Select fasteners of size and length that will not be exposed from the building interior and/or from the ground, or remove protruding fasteners, paint or finish to eliminate exposure.

E. Thickness of wood nailers shall be flush with adjacent insulation and other materials. Additional fasteners shall be installed to ensure nailers are flush.

F. Unless otherwise detailed, plywood used as blocking or shim shall be installed below dimensional lumber such that the fastener head terminates at the dimensional lumber surface.

G. Wood nailers at roof perimeters, expansion joints, roof area dividers, etc. shall not be less than 3 feet long.

H. 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.

END OF SECTION

SECTION 06 20 20

INTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes all finish carpentry work, complete with accessories and related work, as indicated and specified, including but not necessarily limited to the following custom work:

1. Standing and running trim.

B. Related Work Specified In Other Sections

1. Rough Carpentry - Division 6.
2. Transparent Finishes and Painting – Division 9.

1.02 SUBMITTALS

A. Submittals of shop drawings, product data, and samples are required for all work of the Section.

B. Finish Carpentry Product Data: Submit product data on all catalog-type components.

C. Finish Carpentry Material Samples: Submit samples of each of the following items:

1. Hardwoods proposed for use.
2. Finish on hardwood items.

D. For adhesives and glues used at Project site, including printed statement of VOC limits and certify compliance with South Coast Air Quality Management District Regulation #1168.

E. For composite-wood products and adhesives, documentation indicating that product contains no added urea formaldehyde.

1.03 QUALITY ASSURANCE

A. Reference Standard

1. Use the “Quality Standards” of the Architectural Woodwork Institute (AWI) which are referenced and hereby made a part of this Section. Use “Premium Grade” for all work as defined in the latest edition of the AWI “Quality Standards”.
3. Use grades of lumber, plywood and particleboard as defined by the rules of the recognized association of manufacturers producing the kind or species of lumber, plywood and particleboard specified in this Section. Use only lumber, plywood, and particleboard grade-stamped by the inspecting authorities.

1.04 SITE CONDITIONS

A. The woodwork manufacturer is responsible for dimensions not controlled by job conditions. .

1.05 DELIVERY, STORAGE AND HANDLING

A. It is the joint responsibility of the woodwork manufacturer and the Contractor to make certain that woodwork is not delivered until the building and storage areas are sufficiently dry and complete so that the woodwork will not be damaged. The Contractor will replace defective or damaged materials at no cost to the Owner.

B. Crate, ship and deliver all materials to the Site and store in accordance with manufacturer's instructions and standards of the National Woodwork Manufacturers Association.

C. Protect all finished surfaces after installation and finishing from damage and soiling. Maintain protection during subsequent work operations, and remove same upon Owner's Representative's acceptance or when instructed by Owner's Representative.

PART 2 - PRODUCTS

2.01 MATERIALS AND FABRICATION

A. General

1. Use lumber bearing the official trademark and grade of the manufacturer's association or inspection bureau under which it was manufactured and graded, except as specified otherwise herein. Use seasoned lumber, surfaced four sides and kiln or air dried to moisture content specified in association's rules, except that moisture content is limited to a maximum of 11 percent.

2. Lumber Standards: Comply with DOC PS 20, "American Softwood Lumber Standard," for lumber and with applicable grading rules of inspection agencies certified by the American Lumber Standards Committee Board of Review.

B. Lumber Use and Species

1. Furring, Grounds and Similar Use: WWPA "Standard", "No. 2 Common" or better, Douglas Fir-Larch, Hem-Fir, Pine, Engelmann Spruce, Cedar, or SPIB No. 2 Boards Southern Pine.

2. Nailers, Blocking, Framing, Rough Bucks, and Rough Lumber Not Otherwise Specified: WWPA "Utility", "No. 3" or better, Douglas Fir, Hem-Fir, Lodgepole Pine, Western Cedars, or SPIB No. 2KD Southern Pine.

C. Fastening Materials

1. General: Furnish fastening materials of types appropriate for the conditions encountered, including wood to wood, wood to masonry or concrete and wood to metal.

2. Nails and Staples: Galvanized carbon steel, conforming to the requirements of Fed. Spec. FF-N-105B.

3. Screws: Galvanized carbon steel conforming to the requirements of Fed. Spec. FF-S-107C and natural bright finish carbon steel conforming to the requirements of Fed. Spec. FF-S-111C.

4. Bolts, Washers, Expansion Shields, and Nuts: Zinc-coated carbon steel, conforming to the requirements of Fed. Spec. FF-B-561C, FF-B-575C, FF-W-92A, FF-B-588C and FF-N-836D.

5. Adhesives: Aliphatic or phenolic-resin wood glue recommended for general carpentry use.

   a. VOC Limits: Comply with South Coast Air Quality Management District requirements for VOC limits in adhesives. For finish mill work adhesive maximum VOC content is 30 grams/liter. For contact adhesive the limit is 250 grams/liter.

K. Interior Trim:

1. Interior rail:
   a. Solid Hardwood.
   b. Select Soft Maple species.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General Millwork

1. Provide all wood blocking and framing required to support items of finish carpentry. Use fastening materials of types appropriate for the conditions encountered, including wood to wood, wood to masonry, and wood to metal stud framing. Counterbore holes for nuts and bolt heads, and countersink for screws. Use concealed fasteners in exposed surfaces of finish carpentry.

2. Before installing finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours.

3. Do not use materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements. Do not use manufactured units with defective surfaces, sizes, or patterns.

4. Furnish millwork in configurations shown and specified. AWI grading will take precedence over joiner details shown on Drawings. Provide tight joints. Miter exterior angles, cope interior angles and returns of trim moldings. Provide blind nailing where practicable. Secure work with finishing nails or screws and glue. Install trim in maximum practical lengths.

5. On surfaces exposed to view, set all nail heads and putty. Countersink all screw heads and cover with neatly fitted wood plugs to match grain. Sand in accordance

with AWI grading. Fit and scribe all work to walls or other finished work in a careful manner, so as not to injure the surface in any way.

B. Standing and Running Trim and Rails:

1. Install with minimum number of joints possible, using full length pieces (from maximum length of lumber available) to the greatest extent possible.

2. Stagger joints in adjacent and related members.

3. Cope at returns and miter at corners.

C. Temporary Ventilation: During and immediately after installation of engineered wood products, and laminated wood products at interior spaces, provide temporary ventilation.

D. Waste Management:

1. Select lumber sizes to minimize waste; reuse scrap lumber to the greatest extent possible. Clearly separate scrap lumber for use on site as accessory components, including: shims, bracing and blocking.

2. Do not leave any wood, shavings, sawdust, etc., on the ground or buried in fill. Prevent sawdust and wood shavings from entering the storm drainage system.

E. Clean up:

1. Coordinate cleaning program with General Contractor. No cleaning products or solvents containing volatile organic compound (VOC's) are permitted within the building once the building has been dried-in.

2. Clean up and dispose of all waste material and refuse that has been brought onto the job or that has accumulated as a result of the work. Leave the work broom clean or better.

3. Replace finish carpentry that is damaged or does not comply with requirements. Finish carpentry may be repaired or refinished if work complies with requirements and show no evidence of repair or refinishing. Adjust joinery for uniform appearance.

4. Touch up any damaged finishes to restore to new matching adjacent areas.

3.02 PROTECTION

1. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, which ensures that woodwork is being without damage or deterioration at time of Substantial Completion

END OF SECTION

SECTION 0753 00

EPDM MEMBRANE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes the following:

1. Adhered EPDM membrane gutter liner.

1.03 DEFINITIONS

A. Roofing Terminology: Refer to ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

1.04 PERFORMANCE REQUIREMENTS

A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.

B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing membrane manufacturer based on testing and field experience.

1.05 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: For gutter liner include plans, elevations, sections, details, and attachments to other Work.

1. Gutter liner terminations.
2. Expansion joint covering.
3. Membrane securement details.

C. Installer Certificates: Signed by membrane manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install membrane.

D. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.

1. Submit evidence of meeting performance requirements.

E. Warranties: 20-year material warranty.

1.06 QUALITY ASSURANCE

A. Preliminary Conference: Before starting roof deck construction, conduct conference at Project site. Review methods and procedures related to membrane installation and existing roofing system including, but not limited to, the following:

1. Meet with Owner; Architect; Owner's insurer if applicable.

2. Review methods and procedures related to membrane installation, including manufacturer's written instructions.
3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review temporary protection requirements for membrane system during and after installation.
7. Review testing and roof observation and repair procedures after membrane installation.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver membrane materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by membrane system manufacturer. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

C. Handle and store membrane materials and place equipment in a manner to avoid permanent deflection of deck.

1.08 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit membrane system to be installed according to manufacturer's written instructions and warranty requirements.

PART 2 - PRODUCTS

2.01 EPDM ROOFING MEMBRANE

A. EPDM Roofing Membrane: ASTM D 4637**,** Type I, nonreinforced uniform, flexible sheet made from EPDM, and as follows:

1. Manufacturers:

    a. Carlisle SynTec Incorporated.
    b. Celotex Corporation.
    c. Firestone Building Products Company.
    d. GenFlex Roofing Systems.
    e. Johns Manville International, Inc.

2. Thickness: 60 mils, nominal.
3. Exposed Face Color: Black

2.02 AUXILIARY MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.

1. Liquid-type auxiliary materials shall meet VOC limits of authorities having jurisdiction.

B. Sheet Flashing: 60-mil- thick EPDM, partially cured or cured, according to application.

C. Bonding Adhesive: Manufacturer's standard bonding adhesive.

D. Seaming Material: Manufacturer's standard synthetic-rubber polymer primer and 3-inch-wide minimum, butyl splice tape with release film.

E. Lap Sealant: Manufacturer's standard single-component sealant

F. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.

G. Metal Termination Bars: Manufacturer's standard predrilled stainless-steel bars, approximately 1 by 1/8-inch-thick; with anchors.

H. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.

I. Drains: Cast iron parapet drain with threaded four inch diameter side outlet. Sloped grate with membrane clamping flange. Provide one of: Wade Model 3270; Josam Model 24700 or Zurn Model Z187. Provide cast iron pipe stub to extend through parapet.

J. Backer Rod: Low density, closed cell polyethylene foam

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:

1. Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely grouted in place.

2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations.

3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction.

C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.03 ADHERED MEMBRANE INSTALLATION

A. Install roofing membrane over area to receive roofing according to membrane roofing system manufacturer's written instructions. Unroll roofing membrane and allow to relax before installing.

B. Accurately align roofing membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

C. Bonding Adhesive: Apply bonding adhesive to substrate and underside of roofing membrane at rate required by manufacturer and allow to partially dry before installing roofing membrane. Do not apply bonding adhesive to splice area of roofing membrane.

D. Mechanically or adhesively fasten roofing membrane securely at terminations, penetrations, and perimeter of roofing.

E. Apply roofing membrane with side and end laps shingled with slope of gutter.

F. Tape Seam Installation: Clean and prime both faces of splice areas, apply splice tape, and firmly roll side and end laps of overlapping roofing membranes according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of roofing membrane terminations.

G. Repair tears, voids, and lapped seams in roofing that does not meet requirements.

H. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.

I. Install roofing membrane and auxiliary materials to tie in to existing roofing.

3.04 FIELD QUALITY CONTROL

A. Repair or remove and replace components of membrane roofing system where test results or inspections indicate that they do not comply with specified requirements.

B. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

C. After completion of work, conduct watertesting of all gutter sections as shown on Drawing.

3.05 PROTECTING AND CLEANING

A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.

B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements, repair substrates and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION

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SECTION 0761 13

SHEET METAL ROOFING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes the following custom-fabricated sheet metal roofing:

1. Standing-seam metal roofing.

B. Related Sections include the following:

1. Division 7 Section "Sheet Metal Flashing and Trim" for flashings and other sheet metal work not part of sheet metal roofing.
2. Division 7 Section "EPDM Membrane" for gutter liner

1.03 PERFORMANCE REQUIREMENTS

A. General: Provide complete sheet metal roofing system, including, but not limited to, custom-fabricated metal roof pans, cleats, clips, anchors and fasteners, sheet metal flashing, and drainage components related to sheet metal roofing, fascia panels, trim, underlayment, and accessories as indicated and as required for a weathertight installation.

B. Thermal Movements: Provide sheet metal roofing that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of sheet metal roofing thermal movements. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

C. Water Infiltration: Provide sheet metal roofing that does not allow water infiltration to building interior, with metal flashing and connections of sheet metal roofing lapped to allow moisture to run over and off the material.

1.04 SUBMITTALS

A. Product Data: For each product indicated. Include details of construction relative to materials, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: Show fabrication and installation layouts of sheet metal roofing, including plans, elevations, and keyed references to termination points. Distinguish between shop- and field-assembled work. Include the following:

1. Details for forming sheet metal roofing, including seams and dimensions.
2. Details for joining and securing sheet metal roofing, including layout of fasteners, clips, and other attachments. Include pattern of seams.
3. Details of termination points and assemblies, including fixed points.
4. Details of edge conditions, including eaves, ridges, valleys, rakes, crickets, and counterflashings.
5. Details of special conditions.
6. Details of connections to adjoining work.

C. Coordination Drawings: Roof plans drawn to scale and coordinating penetrations and roof-mounted items. Show the following:

1. Sheet metal roofing and attachments.

D. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:

1. Sheet Metal Roofing: 12 inches (300 mm) long by actual panel width, including finished seam. Include fasteners, cleats,clips, closures, and other attachments.
2. Trim and Closures: 12 inches (300 mm) long. Include fasteners and other exposed accessories.

1.05 QUALITY ASSURANCE

A. Custom-Fabricated Sheet Metal Roofing Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate sheet metal roofing similar to that required for this Project and whose products have a record of successful in-service performance.

B. Sheet Metal Roofing Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

C. Copper Roofing Standard: Comply with CDA's "Copper in Architecture Handbook." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

D. Mockups: Coordinate installation of the initial two panels for a mockup. Obtain approval of Architect prior to installing remaining panels.

1. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless such deviations are specifically approved by Architect in writing.
2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

E. Preliminary Roofing Conference: Before starting roof construction, conduct conference at Project site. Comply with requirements for preinstallation conferences in Division 1 Section "Project Management and Coordination." Review methods and procedures related to roof construction and sheet metal roofing including, but not limited to, the following:

1. Meet with Owner, Architect, Owner's insurer if applicable, sheet metal roofing Installerand installers whose work interfaces with or affects sheet metal roofing including installers of roof accessories and roof-mounted equipment.
2. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
3. Review methods and procedures related to sheet metal roofing installation
4. Review structural loading limitations of building during and after roofing.
5. Review flashings, special roof details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect sheet metal roofing.
6. Review governing regulations and requirements for insurance, certificates, and testing and inspecting if applicable.
7. Review temporary protection requirements for sheet metal roofing during and after installation.
8. Review roof observation and repair procedures after sheet metal roofing installation.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver sheet metal roofing panels, components, and other sheet metal roofing materials so as not to be damaged or deformed. Package sheet metal roofing materials for protection during transportation and handling.

B. Unload, store, and erect sheet metal roofing materials in a manner to prevent bending, warping, twisting, and surface damage.

C. Stack materials on platforms or pallets, covered with suitable weathertight and ventilated covering. Store sheet metal roofing materials to ensure dryness. Do not store sheet metal roofing materials in contact with other materials that might cause staining, denting, or other surface damage.

1. Store copper away from uncured concrete and masonry.

D. Protect strippable protective covering on sheet metal roofing from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal roofing installation.

1.07 COORDINATION

A. Coordinate sheet metal roofing with rain drainage work, flashing, trim, and construction/repair of parapets, walls, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the products specified.

2. Products: Subject to compliance with requirements, provide one of the products specified.

3. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the manufacturers specified.

4. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

2.02 ROOFING SHEET METALS

A. Copper Sheet: ASTM B 370, cold-rolled copper sheet, H00 temper, unless otherwise indicated.

1. Weight (Thickness): 16 oz./sq. ft. (0.55 mm)unless otherwise indicated.

2.03 UNDERLAYMENT MATERIALS

A. Self-Adhering, Polyethylene-Faced Sheet: ASTM D 1970, 40 mils (1.0 mm) thick minimum, consisting of slip-resisting polyethylene-film reinforcing and top surface laminated to SBS-modified asphalt adhesive, with release-paper backing; cold applied.

1. Products:

a. Carlisle Coatings & Waterproofing, Div. of Carlisle Companies Inc.; Dri-Start "A."

b. Grace, W. R. & Co.; Grace Ice and Water Shield.

c. Henry Company; Perma-Seal PE.

d. Johns Manville International, Inc.; Roof Defender.

e. NEI Advanced Composite Technology; AC Poly Ice and StormSeal.

f. Polyguard Products, Inc.; Polyguard Deck Guard.

2.04 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for a complete roofing system and as recommended by fabricator for sheet metal roofing.

B. Wood Fill: Lumber complying with requirements in Division 6 Section and pressure treated for ground contact.

C. Fasteners: Self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads.

1. Nails for Copper Roofing: Copper or hardware bronze, 0.109 inch (2.8 mm) minimum and not less than 7/8 inch (22 mm) long, barbed with large head.
2. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws with hex washer head.
3. Blind Fasteners: stainless-steel rivets.
4. Copper to masonry: 1/4 inch diameter lead expansion anchors 1-1/2 inches long with stainless steel drive pin or ¼ inch diameter by 1 -3/4 inch long stainless steel masonry screws.

2.05 ACCESSORIES

A. Sheet Metal Roofing Accessories: Provide components required for a complete sheet metal roofing assembly including trim, copings, fasciae, corner units, ridge closures, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of sheet metal roofing, unless otherwise indicated.

1. Closures: Provide closures at eaves and ridges, fabricated of same metal as sheet metal roofing.
2. Cleats: Mechanically seamed cleats formed from the following material:
   a. Copper Roofing: 16-oz./sq. ft. (0.55-mm-) thick copper sheet.
3. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
4. Closures: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- (25-mm-) thick, flexible closure strips; cut or premolded to match sheet metal roofing profile. Provide closure strips where indicated or necessary to ensure weathertight construction.

2.06 FABRICATION

A. General: Custom fabricate sheet metal roofing to comply with details shown and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions (pan width and seam height), geometry, metal thickness, and other characteristics of installation indicated. Fabricate sheet metal roofing and accessories at

the shop to greatest extent possible.

1. Standing-Seam Roofing: Form standing-seam pans with finished seam height **of 1 inch**

B. Fabricate sheet metal roofing to allow for expansion in running work sufficient to prevent leakage, damage, and deterioration of the Work. Form exposed sheet metal work to fit substrates without excessive oil canning, buckling, and tool marks, true to line and levels indicated, and with exposed edges folded back to form hems.

1. Lay out sheet metal roofing so cross seams, when required, are made in direction of flow with higher pans overlapping lower pans. Stagger cross seams.
2. Fold and cleat eaves and transverse seams in the shop.
3. Form and fabricate sheets, seams, strips, cleats, valleys, ridges, edge treatments, integral flashings, and other components of metal roofing to profiles, patterns, and drainage arrangements shown and as required for leakproof construction.

C. Sealant Joints: Where movable, nonexpansion-type joints are indicated or required to produce weathertight seams, form metal to provide for proper installation of elastomeric sealant, in compliance with SMACNA standards.

D. Metal Protection: Where dissimilar metals will contact each other, protect against galvanic action by painting contact surfaces with bituminous coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by manufacturers of dissimilar metals or by fabricator.

2.07 FINISHES, GENERAL

A. Copper Sheet Finishes:

1. Exposed Finish: Mill.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, sheet metal roofing supports, and other conditions affecting performance of work.

1. Examine primary and secondary roof framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed.
2. Examine solid roof sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances.
3. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and completely anchored, and that provision has been made for roof drains,scuppers, flashings, and penetrations through sheet metal roofing.

B. Examine roughing-in for components and systems penetrating sheet metal roofing to verify actual locations of penetrations relative to seam locations of sheet metal roofing before sheet metal roofing installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Install flashings and other sheet metal to comply with requirements specified in Division 7 Section "Sheet Metal Flashing and Trim."

3.03 UNDERLAYMENT INSTALLATION

A. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free, on prepared parapet. Apply primer if required by underlayment manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation; use primer for installing underlayment at low temperatures. Apply at locations indicated on Drawings, in shingle fashion to shed water, with end laps of not less than 6 inches (150 mm) staggered 24 inches (600 mm) between courses. Overlap side edges not less than 3-1/2 inches (90 mm) Cover underlayment within 14 days.

3.04 INSTALLATION, GENERAL

A. General: Anchor sheet metal roofing and other components of the Work securely in place, with provisions for thermal and structural movement. Install fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for a complete roofing system and as recommended by fabricator for sheet metal roofing.

1. Field cutting of sheet metal roofing by torch is not permitted.
2. Rigidly fasten ends of sheet metal roofing and allow free movement due to thermal expansion and contraction at cleats. Predrill roofing.
3. Provide metal closures at ends of all panels
4. Flash and seal sheet metal roofing with weather closures at eaves, rakes, and at perimeter of all openings. Fasten with rivets.
5. Locate and space fastenings in uniform vertical and horizontal alignment.
6. Lap metal flashing over sheet metal roofing to allow moisture to run over and off the material.

B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by fabricator of sheet metal roofing or manufacturers of dissimilar metals.

C. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.

3.05 CUSTOM-FABRICATED SHEET METAL ROOFING INSTALLATION

A. Fabricate and install work with lines and corners of exposed units true and accurate. Form exposed faces flat and free of buckles, excessive waves, and avoidable tool marks, considering temper and reflectivity of metal. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant. Fold back sheet metal to form a hem on concealed side of exposed edges, unless otherwise indicated.

1. Install cleats to hold sheet metal panels in position. Attach each cleat with two fasteners to prevent rotation.

2. Fasten cleats with lead expansion nailins or masonry screws. Secure cleats not more than 12 inches (300 mm) o.c. Locate fasteners in underlying masonry joints where possible.

B. Seal joints as shown and as required for leakproof construction.

C. Standing-Seam Roofing: Attach standing-seam metal pans to substrate with cleats, secured with nailins or masonry screws at 12 inches (305 mm) o.c. Install pans covering back of rake parapet. Crimp standing seams by folding over twice so cleat and pan edges are completely engaged.

1. Loose-lock pans at edges to continuous cleats and flanges on flashing.

2. Turn down seams at ends to secure panels in receivers or cleats. Leave seams upright in middle of panels.

3.06 ACCESSORY INSTALLATION

A. General: Install accessories with positive anchorage to building and weathertight mounting and provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install components required for a complete sheet metal roofing assembly including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.

3.07 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder and sealants.

C. Replace panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

SECTION 0762 00

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes the following sheet metal flashing and trim:

1. Formed roof drainage system.
2. Formed steep-slope roof flashing and trim.
3. Through wall flashing.

B. Related Sections include the following:

1. Division 7 Section Sheet Metal Roofing

1.03 PERFORMANCE REQUIREMENTS

A. General: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing, rattling, leaking, and fastener disengagement.

B. Thermal Movements: Provide sheet metal flashing and trim that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of sheet metal and trim thermal movements. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

C. Water Infiltration: Provide sheet metal flashing and trim that do not allow water infiltration to building interior.

1.04 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: Show layouts of sheet metal roofing, flashing and trim, including plans and elevations. Distinguish between shop- and field-assembled work. Include the following:

1. Identify material, thickness, weight, and finish for each item and location in Project.
2. Details for forming sheet metal roofing, flashing and trim, including profiles, shapes, seams, and dimensions.
3. Details for fastening, joining, supporting, and anchoring sheet metal flashing and trim, including fasteners, clips, cleats, and attachments to adjoining work.

C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:

1. Sheet Metal through wall flashing: 12 inches (300 mm) long. Include reglets, fasteners, cleats closures, and other attachments.
2. Counterflashing: 12 inches (300 mm) long. Include fasteners and other exposed accessories.
3. Accessories: Full-size Sample.

1.05 QUALITY ASSURANCE

A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

1. Copper Standard: Comply with CDA's "Copper in Architecture Handbook."

B. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1. Meet with Owner, Architect, Owner's insurer if applicable, Installer, and installers whose work interfaces with or affects sheet metal flashing and trim including installers of roofing materials, roof accessories, unit skylights, and roof-mounted equipment.
2. Review methods and procedures related to sheet metal flashing and trim.
3. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.
4. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver sheet metal flashing materials and fabrications undamaged. Protect sheet metal flashing and trim materials and fabrications during transportation and handling.

B. Unload, store, and install sheet metal flashing materials and fabrications in a manner to prevent bending, warping, twisting, and surface damage.

C. Stack materials on platforms or pallets, covered with suitable weathertight and ventilated covering. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage.

1.07 COORDINATION

A. Coordinate installation of sheet metal flashing and trim with interfacing and adjoining construction to provide a leakproof, secure, and noncorrosive installation.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.

2.02 SHEET METALS

A. Copper Sheet: ASTM B 370, Temper H00 or H01, cold-rolled copper sheet.

2.03 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.

B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads. All fasteners to be non-ferrous unless otherwise specified.

1. Nails for Copper Sheet: Copper or hardware bronze, 0.109 inch (2.8 mm) minimum and not less than 7/8 inch (22 mm) long, barbed with large head.

C. Fasteners for Flashing and Trim: Blind fasteners.

D. Solder for Copper: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead.

E. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

F. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil (0.4-mm) dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.04 FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to

design, dimensions, metal, and other characteristics of item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.

B. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.

C. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.

D. Sealed Joints: Form non-expansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.

E. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with elastomeric sealant concealed within joints.

F. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.

G. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

1. Thickness: As recommended by SMACNA's "Architectural Sheet Metal Manual for application but not less than thickness of metal being secured.

2.05 STEEP-SLOPE ROOF SHEET METAL FABRICATIONS

A. Through wall flashing: Fabricate from the following material

1. Copper: 16 oz./sq. ft. (0.55 mm thick)

B. Drip Edges- Eaves and Rakes: Fabricate from the following material:

1. Copper: 16 oz./sq. ft. (0.55 mm thick).

C. Counterflashing: Fabricate from the following material:

1. Copper: 16 oz./sq. ft. (0.55 mm thick).

D. Flashing Receivers: Fabricate from the following material:

1. Copper: 16 oz./sq. ft. (0.55 mm thick)

2.06 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

C. Slope: All flashings shall be sloped to drain water out of walls/building. Slope cleats, receivers and similar items to not hold water.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of work.

1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION, GENERAL

A. General: Anchor sheet metal roofing, flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

1. Torch cutting of sheet metal flashing and trim is not permitted.

B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.

1. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet or install a course of polyethylene underlayment.
2. Bed flanges in thick coat of asphalt roofing cement where required for waterproof performance.

C. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.

D. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.

E. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

1. Space cleats not more than 12 inches (300 mm) apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.

F. Flashing Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (600 mm) of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with elastomeric sealant concealed within joints.

G. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws.

1. Copper: Use copper or stainless-steel fasteners.

H. Seal joints with elastomeric sealant as required for watertight construction.

1. Lap through wall flashing joints 4 inches in direction of water flow. Apply two beds sealant across the entire joint. Form joints to completely conceal sealant.

3.03 ROOF DRAINAGE SYSTEM INSTALLATION

A. General: Install sheet metal roof drainage items to produce complete roof drainage system according to SMACNA recommendations and as indicated. Coordinate installation of roof perimeter flashing with installation of roof drainage system.

3.04 ROOF FLASHING INSTALLATION

A. General: Install sheet metal roof flashing and trim to comply with performance requirements[**,** sheet metal manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight.

B. Counterflashing: Coordinate installation of counterflashing with installation of through wall flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches (100 mm) over EPDM membrane. Lap counterflashing joints a minimum of 4 inches (100 mm) and bed with elastomeric sealant.

1. Secure to copper reglet formed in through wall flashing with stainless steel screws.

3.05 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder and sealants.

C. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

SECTION 07 92 00

JOINT SEALERS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Exterior weather seal in vertical walls.

B. Internal component seals relied on to manage infiltrated water.

C. Interior caulking at perimeter of wood trim.

D. Sealant backers required for proper joint configuration and as bond breaker.

1.02 REFERENCES (LATEST EDITION)

A. American Society for Testing and Material (ASTM):

1. C719 Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement.

2. C794 Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants.

3. C920 Standard Specification for Elastomeric Joint Sealants.

4. C1248 Standard Test Method for Staining of Porous Substrate by Joint Sealants.

5. C1087 Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems.

6. C1193 Standard Guide for Use of Joint Sealants.

1.03 PERFORMANCE REQUIREMENTS

A. Conformance with the requirements of this Article shall be demonstrated, where applicable, by submitting appropriate manufacturer's test reports, product technical data, and certification letters.

B. Sealed Joint Design:

1. Design and install joint widths to accommodate expected movements, without failure of joint sealant.

2. In no case shall a sealed joint, susceptible to movement, be installed at less than ¼" (6mm).

3. Sealant and backer shall be installed of proper configuration to maximize compression/extension of sealant capability and to minimize stress at bond line on substrates.

4. Elastomeric joint sealants: Sealants that provide and maintain watertight and airtight joints and seals without the deterioration and staining of adjacent materials.

5. Interior joint sealants and caulks: Sealants and caulks that provide and maintain watertight and airtight joints and seals without the deterioration and staining of adjacent materials.

C. Adhesion:

1. When tested in conformance to ASTM C794, joint sealant shall not fail in adhesion.

D. Compatibility:

1. When tested in conformance to ASTM C1087, sealants shall be shown to be compatible with project materials coming in contact with the sealant such as backers, gaskets, and setting blocks.

E. Staining:

1. When tested in conformance to ASTM C1248, porous substrates shall show no permanent staining.

1.04 SUBMITTALS

A. Product Data:

1. Submit manufacturer's published product data sheets for confirmation of intent of products to be provided on project.

2. Include color charts for manufacturer's full range of color options, including both standard and special order.

1.05 QUALITY ASSURANCE

A. Qualifications:

1. Installer shall be able to demonstrate not less than five (5) years successful experience in the installation of comparable projects.

2. Employ craftsmen who are thoroughly skilled and completely familiar with the specified requirements. Provide the services of a competent foreman or supervisor who shall be available at all times during the progress of the work of this Section.

3. Manufacturer shall be capable of providing the following:

a. Field service representation during construction
b. Performing laboratory tests as specified herein
c. Review and comment of contractor's shop drawings, as requested, relating to sealant details

4. All sealant for the work of this section shall be provided by one manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver, handle, and store all materials in a manner to prevent damage or deterioration, in conformance with manufacturer's instructions.

B. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.

C. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact. Batch numbers and expiration date shall be clearly marked on manufacturer's packaging.

D. Provide Material Safety Data Sheet for each product.

1.07 SITE CONDITIONS

A. Do not install sealants or other materials in environmental conditions (temperature, humidity, ventilation, wind) that are beyond the limitations set by the manufacturer.

1.08 WARRANTY

A. Manufacturer shall warrant for 1 year from date of substantial completion, that the installed sealants will perform as watertight weatherseals and will not change colors when used with back-up materials and substrates that have been approved for compatibility.

B. Defects may be defined as follows; however, this list is not inclusive of all potential problems:

1. Adhesive or cohesive failure
2. Staining of substrates beyond samples as tested for project
3. Color change of sealants or adjacent materials
4. Failure of sealant to cure

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Sealant Manufacturers:

1. Dow Corning Corp.
   1255 Northmeadow Parkway, Suite 104
   Roswell, GA 30076
   (770) 751-7979
2. Pecora Corporation
   165 Wambold Road
   Harleysville, PA 19438
   (800) 523-6688

3. Sonneborn, Division of ChemRex, Inc.
   889 Valley Park Drive
   Shakopee, MN 55379
   (800) 433-9517

4. Tremco
   3735 Green Road
   Beachwood, OH 44122
   (800) 321-7906

5. General Electric Co.
   260 Hudson River Rd.
   Waterford, NY 12188
   (800) 255-8886

6. Polymeric Systems, Inc
   47 Park Avenue
   PO Box 522
   Elverson, PA 19520
   (800) 228-5548

7. Sika Corporation, USA
   201 Polito Avenue
   Lyndhurst, NJ 07071
   (800) 933-7452

8. DAP Products, Inc.
   2400 Boston Street
   Suite 200
   Baltimore, MD 21224
   (800) 543-3840

2.02 MATERIALS

A. VOC emission limits: Interior Architectural Sealants are to comply with Bay Area Resources Board Reg. 8, Rule 51.

   1. VOC limit for sealant and caulk: 250 grams/liter.

   2. VOC limit for primer on non-porous surfaces: 250 grams/liter.

   3. VOC limit for primer on porous surfaces: 775 grams/liter.

B. Toxicity Compliance:

   1. Comply with Bay Area Resources Board requirements to limit use of toxic substances. Sealants containing aromatic solvents, fibrous talc, formaldehyde, halogenated solvents, mercury, lead, cadmium, chromium, and their components are not permitted.

C. Materials, General:

1. Provide joint sealants that are compatible with backing material, accessories, substrates and adjacent sealants for the intended uses based on the testing, recommendations experience and written instructions of the sealant manufacturer.

2. Colors for Exposed Joint Sealants: Provide joint sealant colors as selected by the Architect-Engineer from the manufacturer's full range of colors to match adjoining materials.

D. Sealant Compound:

1. Two-Part Polysulfide Sealant: ASTM C920, Type M, Grade NS, Class 25, Use T, NT, M, A, G, and O as appropriate. Furnish in standard colors as selected.

   a. Polymeric Systems, Inc. Polysuffide PSI-350 Sealant. (96 VOC)
   b. Sonneborn, Division of ChemRex, Inc. "Sonolastic Two Part" (100 VOC)

2. One-Part Polysulfide Sealant: ASTM C920, Type S, Grade NS, Class 25, Use NT, M, A, G and O as appropriate. Furnish in standard colors as selected.

   a. Polymeric Systems, Inc. "PSI-7000 Polysulfide Rubber". (36 VOC)
   b. W.R. Meadows Inc., "Deck-O-Seal One Step". (Verify less than 250 VOC)

3. Multi-Part Polyurethane Sealant: ASTM C920, Type M, Grade NS, Class 25, Use T, NT, M, G, A, and O as appropriate. Furnish in standard colors as selected.

   a. Pecora Corp. "Dynatrol II Sealant" (14 VOC)
   b. Polymeric Systems, Inc. "270 Multi-Component Urethane". (96 VOC)
   c. Tremco "Dymeric" or "Dymeric 240 FC" (Verify less than 250 VOC)
   d. Sika "Sikaflex 2CNS". (Verify less than 250 VOC)

4. One-Part Polyurethane Sealant: ASTM C920, Type S, Grade NS, Class 25, Use NT, M, G, A, and O as appropriate. Furnish in standard colors as selected.

   a. Pecora Corp. "Dynatrol 1".(Verify less than 250 VOC)
   b. Polymeric Systems, Inc. "PSI-901/RC-1 One Part Urethane". (35 VOC)
   c. Sonneborn, Division of ChemRex, Inc. "Sonolastic TXI" (36 VOC)
   d. Sika "Sikaflex 1A". (Verify less than 250 VOC)
   e. Sika "Sikaflex 15LM". (Verify less than 250 VOC)

5. One-Part Silicone Sealant: ASTM C920, Type S, Grade NS, Class 25, Use NT, M, G, A, and O as appropriate. Furnish in standard colors as selected.

   a. Dow Corning Corp. "795 Building Sealant" (43 VOC)
   b. General Electric Silicone Products Department "Silpruf Sealant" (Verify less than 250 VOC)
   c. Pecora Corp. "864 Silicone Sealant" (12 VOC)
   d. Tremco "Spectrem 1" (Verify less than 250 VOC)

6. One-Part Mildew-Resistant Silicone Sealant: Mildew-resistant formulation; ASTM C920, Type S, Grade NS, Class 25, Use NT, M, A, and O. Furnish in standard colors as selected. Use to seal joints in damp areas such as around ceramic tile, showers, tubs, sinks and other plumbing fixtures.

   a. Dow Corning Corp. "786 Mildew Resistant Sealant". (Verify less than 250 VOC)
   b. General Electric Silicone Products Department "Sanitary 1700 Sealant"
   c. Pecora Corp. "898 Silicone". (12 VOC)

7. Chemical Resistant Sealant:

   a. Pecora Corp. "GC-2 Synthacaulk". (Verify less than 250 VOC)

E. Caulking Compound:

1. Acrylic Latex Caulk: Non-sag, 1-part latex base caulk, per ASTM C834 Furnish in standard colors as selected.

   a. DAP Inc. "ALEX Acrylic Latex Caulk" (Verify less than 250 VOC)
   b. Pecora Corp. "AC-20 Acrylic Latex Caulk" (31 VOC)
   c. Sonneborn "Sonolac" (180 VOC)
   d. Tremco "Acrylic Latex Caulk Tremflex 834" (Verify less than 250 VOC)

F. Sealant Backers

1. Provide backers complying with ASTM C1330 Type C of size and density to control sealant. Round, solid section skinned surfaced, soft foam gasket as recommended by sealant manufacturer and as passed on project compatibility tests. Closed cell gassing rods are not acceptable.

2. Provide sufficient sizes and diameters of backers to accommodate varying joint widths on project, such that backers are compressed about 25% for all installations.

G. Primers, Cleaning, Masking Supplies

1. Provide primer for specific sealant/substrate conditions as recommended by sealant manufacturer and as determined by project sample testing.

2. Provide solvents, cloths, and other supplies as recommended or acceptable by sealant manufacturer for proper joint preparation.

3. Do not use solvents that are harmful to paint finishes or other components that will be contacted.

4. Masking tape shall not leave reside when removed.

H. Bond Breaker Tape

1. Provide polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing sealant bond that would result in joint failure.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Before commencing sealant installation in any assigned area, examine substrates' condition and joint width which may affect sealed joint performance. Correct deficiencies before proceeding.

3.02 PREPARATION

A. Cleaning

1. Clean joint surfaces just prior to sealant installation to remove all laitance and surface dirt.

a. Non-porous substrates shall be cleaned with a solvent as recommended or acceptable by sealant manufacturer, and as required depending upon contaminants to be removed. Use "two-cloth" cleaning method as described herein.

b. Porous substrates shall be cleaned by dusting or solvent, or both as dictated by field testing and as recommended or acceptable to sealant manufacturer. Abrasion cleaning may be required to remove surface treatments or coatings.

2. "Two-Cloth" Cleaning Method

a. Use clean, soft, absorbent, lint-free cloths. This method consists of a solvent cloth wipe followed by a dry cloth wipe.

b. Thoroughly clean all surfaces of loose debris.

c. Pour or dispense acceptable cleaning solvent onto the cloth. A plastic squeeze bottle works best for organic cleaning solvents. Do not dip cloth into solvent container, as this will contaminate the cleaning agent.

d. Wipe vigorously to remove surface contaminates. Rotate the cloth to clean area before re-wiping.

e. Immediately wipe the cleaned area with a separate clean, dry cloth. Organic solvent must be removed with the dry cloth before the solvent evaporates.

B. Indoor Air Quality:

1. Temporary ventilation: Provide temporary ventilation during work of this Section.

C. Priming

1. If primer is required per project substrate adhesion testing, mask adjacent surfaces where aesthetics is a consideration to keep excess primer or sealant off these surfaces.

2. Apply primer (if required) to cleaned, dry substrates using a clean, dry cloth or brush. Do not apply too thick of coat. A white, powdery film will form if primer has been applied too thick. Remove excess primer with clean cloth.

3. Allow primer to dry until all solvent is evaporated; this may take 5 to 30 minutes, depending on weather conditions.

4. After inspecting for dryness, the joint is ready for backer and sealant installation. Sealant must be installed same day as joint preparation.

3.03 INSTALLATION

A. Comply with the requirements of ASTM C1193 for proper sealant and backer installation.

B. Sealant Backers

1. Install proper diameter or size backer to depth in joint to develop a proper sealant bead configuration.

2. Do not stretch, twist, or puncture sealant backers.

3. If backers become wet due to exposure, remove and replace with dry material.

4. Install bond breaker tape where required to prevent three-sided adhesion in moving joints.

C. Installation of Sealants

1. Completely fill voids in joints to ensure full adhesion and proper joint profile.

2. Tool sealant concave, pushing sealant into void. Do not wet tooling aids as this may interfere with sealant cure and adhesion.

3. At hairline cracks in exterior concrete and clay brick masonry:
   a. Complete surface cleaning and repointing of exterior wall prior to application of exterior sealants.
   b. Clean out cracks using pressurized air and bristle brush.
   c. Use narrow opening to apply gunnable sealant into ant on full-length of cracks in areas indicated.
   d. Tool into crack where feasible.
   e. Immediately clean excess sealant from surfaces.

3.04 FIELD QUALITY CONTROL

A. Do not allow excess sealant to contact adjacent surfaces if aesthetics is a consideration. However, should this occur, remove immediately by method of solvent, abrasion, or both as applicable. Solvents will not fully remove sealants or primers from porous surfaces.

B. Remove masking tape before sealant cures.

C. Dispose of all trash and solvent wipe rags in non-combustible containers.

3.05 PROTECTION

A. Protect the installed sealants from damage or contamination during course of construction.

END OF SECTION

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SECTION 09 03 20

HISTORIC TREATMENT OF PLASTER

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section Includes:

1. Repair and replacement of historic interior lime plaster.

B. Related Requirements:

1. Section 013591 "Historic Treatment Procedures" for general historic treatment requirements.

1.03 SEQUENCING AND SCHEDULING

A. Perform historic treatment of plaster in the following sequence, which includes work specified in this and other Sections:

1. Dismantle existing surface-mounted objects and hardware that overlie plaster surfaces except items indicated to remain in place. Tag items with location identification and protect.
2. Verify that temporary protections have been installed.
3. Examine condition of plaster surfaces.
4. Clean plaster surface and remove paint and other finishes to the extent required.
5. Repair and replace existing plaster and supports to the degree required for a uniform, tightly adhered surface on which to paint or apply other finishes.
6. Cure repaired surfaces and allow them to dry for proper finishing.
7. Paint and apply other finishes.
8. Reinstall dismantled surface-mounted objects and hardware unless otherwise indicated.

1.04 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include recommendations for product application and use.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver packaged materials to Project site in manufacturer's original and unopened containers, labeled with manufacturer's name and type of products.

B. Store materials on elevated platforms, under cover, and in a dry location with ambient temperatures continuously maintained at not less than 45 deg F.

C. Store hydrated lime and factory-prepared lime putty in manufacturer's original and unopened containers. Discard lime if containers have been damaged or have been opened for more than two days.

D. Store materials not in use in tightly covered containers.

E. Store lime putty covered with water in sealed containers.

F. Store sand where grading and other required characteristics can be maintained, and contamination avoided.

1.06 FIELD CONDITIONS

A. Comply with plaster-material manufacturers' written instructions.

B. Temperatures: Maintain temperatures in work areas at not less than 55 deg F or greater than 80 deg F for at least seven days before application of plaster, continuously during application, and for seven days after plaster has set or until plaster has dried.

C. Avoid conditions that result in plaster drying out too quickly.

1. Distribute heat evenly; prevent concentrated or uneven heat on plaster.
2. Maintain relative humidity levels for prevailing ambient temperature that produce normal drying conditions.
3. Ventilate work areas in a manner that prevents drafts of air from contacting surfaces during plaster application and until plaster is dry.

PART 2 - PRODUCTS

2.01 LIME-PLASTER MATERIALS

A. Hydrated Lime: ASTM C 206, Type S.

B. Sand Aggregates: ASTM C 897.

1. Finish-Coat Sand: Match size, texture, and gradation of existing sand as closely as possible. Blend several sands if necessary to achieve suitable match.

2.02 LATH - (Not Used)

2.03 TRIM ACCESSORIES

A. General: According to ASTM C 1063 for lime plaster; coordinate depth of trim and accessories with thicknesses and number of plaster coats required.

B. Metal Accessories:

1. Casing Beads: Fabricated from zinc or zinc-coated (galvanized) steel; square-edged style; with expanded flanges.

2.04 MISCELLANEOUS MATERIALS

A. Water for Mixing and Finishing Plaster: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.

B. Fasteners for Attaching Lath to Substrates:

1. For Lime Plaster: ASTM C 1063.

PART 3 - EXECUTION

3.01 HISTORIC TREATMENT OF PLASTER, GENERAL

A. Historic Treatment Appearance Standard:

1. Completed work is to have a uniform appearance as viewed by Architect 5 feet from surface and from building exterior at 20 feet away from surface.
2. Work is to match the general appearance of the Quality Standard wall identified on the drawings.

B. General: In treating historic plaster, disturb it as minimally as possible and as follows unless otherwise indicated:

1. Dismantle loose, damaged, or deteriorated plaster, lath, and support systems that cannot be repaired.
2. Verify extent of plaster deterioration against that indicated on Drawings. Consult Architect on types and extent of required work.
3. Verify that substrate surface conditions are suitable for repairs.
4. Provide furring, and support systems for plaster included in the work of this Section.
5. Replace lost details in new, wet-applied and cast plaster that replicate existing or indicated plaster configurations.
6. Leave repaired plasterwork in proper condition for painting or applying other finishes as indicated.

7. Install temporary protective measures to protect historic surfaces that shall be treated later.

C. Illumination: Perform plastering work with adequate, uniform illumination that does not distort the flatness or curvature of surfaces.

3.02 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for substrate and environmental conditions, installation tolerances, and other conditions affecting performance of the Work.

1. If existing substrates cannot be prepared to an acceptable condition for plastering work, notify Architect in writing.
2. Notify Architect of undocumented detrimental conditions including cracks, bulges, loose backup, rotted wood, rusted metal, and other deteriorated items.

B. Masonry Substrates: Verify that mortar joints are struck flush. Notify Architect of undocumented masonry substrate without flush joints. Proceed with plastering as directed by Architect.

C. Begin historic plastering work only after unsatisfactory conditions have been corrected.

3.03 PREPARATION FOR PLASTERING

A. Substrates: Prepare according to plaster manufacturer's written instructions and as follows:

1. Clean surfaces to remove dust, loose particles, grease, oil, incompatible curing compounds, form-release agents, and other foreign matter and deposits that could impair bond with plaster.
2. Remove ridges and protrusions greater than 1/8 inch and fill depressions greater than 1/4 inch with patching material. Allow to set and dry.

3.04 PLASTER REMOVAL AND REPLACEMENT, GENERAL

A. Dismantle plaster that is damaged or deteriorated to the limits indicated. Carefully dismantle areas along straight edges that lie over supports, without damaging surrounding plasterwork.

B. Maintain lath and supporting members in an undamaged condition so far as practicable. Dismantle damaged lath and supports that cannot be repaired or resecured and replace with new work of same type.

C. Notify Architect of undocumented detrimental conditions including cracks, bulges, loose backup, rotted wood, rusted metal, and other deteriorated items.

D. Do not deviate more than plus or minus 1/8 inch in 10 feet from a true plane in finished plaster surfaces, as measured by a 10-foot straightedge placed on surface.

E. Clean substrate surfaces to remove grease, waxes, oils, waterborne staining, debris, and other foreign matter and deposits that could impair bond with repair material.

F. Wet masonry bases before plaster application. Keep substrate damp to the touch but without visible water droplets.

G. Wet remaining plaster abutting the replacement plaster before installing new plasterwork.

H. Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground unless otherwise indicated. Where casing bead does not terminate plaster at metal frame, cut base coat free from metal frame before plaster sets and groove finish coat at junctures with metal.

I. Provide plaster surfaces that are ready to receive field-applied finishes indicated.

3.05 FLAT LIME-PLASTER REMOVAL AND REPLACEMENT

A. General: Dismantle deteriorated plaster to existing sound plaster at locations indicated on Drawings.

1. Inspect for lath deterioration. If any, replace lath.
2. Sand bonding surfaces of repair area, and clean the surface with a nonmetallic bristle brush.
3. Wet substrate to damp condition, but without visible water droplets, then install new plaster to original profiles.

B. Lime-Plaster Base Coats:

1. Scratch Coat: 1 part lime putty, 2-1/2 parts base-coat sand.
2. Brown Coat: 1 part lime putty, 3 parts base-coat sand.

C. Lime-Plaster Finishes: Match finish(es) of design reference sample(s).

D. Hairline cracking within the plaster or plaster separation at edge of a replacement is unacceptable. Completely dismantle such work and reinstall or repair as a crack repair.

3.06 REMOVal

A. General: Dismantle existing plaster as necessary to expose firm substrates and supports. Repair with new materials, well secured to building structure.

B. Notify Architect of undocumented detrimental conditions including cracks, bulges, loose backup, rotted wood, rusted metal, and other deteriorated items.

3.07 PATCH-TYPE REPAIR

A. General: Patch voids, fractured surfaces, and crushed areas in otherwise sound plaster that are larger than cracks.

1. Notify Architect of undocumented detrimental conditions including cracks, bulges, loose backup, rotted wood, rusted metal, and other deteriorated items.
2. Inspect for deterioration of supporting plaster and lath, and repair or replace deteriorated material as required for a sound substrate.
3. Rake perimeter of hole to sound plaster, and slightly undercut existing plaster to enable replacement plaster to tuck behind existing plaster.
4. Replace missing lath in kind. Bridge gaps in wood lath with expanded-metal lath, overlapping wood by 6 inches and fastening them together.
5. Clean hole to remove loose materials and other foreign matter and deposits that could impair bond with repair material. Where grease, waxes, oils, waterborne staining, or other foreign matter and deposits that could impair bond with repair material have penetrated into the plaster, enlarge the hole to remove these deposits.
6. Wet substrate to damp condition, but without visible water droplets, then install patch material to original profiles.
7. Maintain adjacent plasterwork in an undamaged condition so far as practicable.

B. Lime-Plaster Mix: 1 part lime putty, 3 parts sand.

C. Finishing: Finish flat surfaces flush and with same texture as adjacent existing plaster. For molded plaster shapes, tool surface to restore the sharp edges and the shape of the molded shape to original contours.

D. Hairline cracking within the plaster or plaster separation at edge of a patch is unacceptable. Completely dismantle such work and reinstall or repair.

3.08 HAIRLINE CRACK REPAIR

A. General: Repair cracks 1/32 inch in width or narrower in otherwise sound plaster.

1. Notify Architect of undocumented detrimental conditions including cracks, bulges, loose backup, rotted wood, rusted metal, and other deteriorated items.
2. Maintain adjacent plasterwork in an undamaged condition so far as practicable.

B. Existing Topcoat: Open crack in existing topcoat to at least 1/8 inch in width and check for broken fiber reinforcement in base coats.

C. Existing Base Coats: Do not open crack wider in existing base coats unless inspection or other indication shows that the fiber reinforcement has broken. Where inspections indicate failure of fiber reinforcement, proceed as for a large crack repair, but only for length of crack with broken fiber reinforcement.

D. Clean out crack to remove loose materials and other foreign matter and deposits that could impair bond with repair material. Where grease, waxes, oils, waterborne staining, or other foreign matter and deposits that could impair bond with repair material have penetrated into the topcoat plaster, widen the crack and sand surface of the exposed basecoat to remove these

deposits.

E. Wet substrate to damp condition, but without visible water droplets.

F. Force finish-coat plaster without aggregate into crack, filling crack to original plaster profile.

G. Finishing: Finish flat surfaces flush and with same texture as adjacent existing plaster. For molded plaster shapes, tool surface to restore the sharp edges and the shape of the molded shape to original contours.

3.09 LARGE CRACK REPAIR

A. General: Repair cracks over 1/32 inch in width in otherwise sound plaster.

1. Notify Architect of undocumented detrimental conditions including cracks, bulges, loose backup, rotted wood, rusted metal, and other deteriorated items.
2. Maintain adjacent plasterwork in an undamaged condition so far as practicable.

B. Open crack to at least 1/8 inch in width and full depth with V-groove tool, and check for bond separation or lath deterioration.

C. Abrade side surfaces of crack and remove inner crack debris by gouging (keying) the inside area of the crack.

D. Clean out crack to remove loose materials and other foreign matter and deposits that could impair bond with repair material. Where grease, waxes, oils, waterborne staining, or other foreign matter and deposits that could impair bond with repair material have penetrated into the plaster, widen the crack to remove these deposits.

E. Wet substrate to damp condition, but without visible water droplets.

F. Install finish-coat plaster to fill crack to original plaster profile.

G. Finishing: Finish flat surfaces flush and with same texture as adjacent existing plaster. For molded plaster shapes, tool surface to restore the sharp edges and the shape of the molded shape to original contours.

H. Offset Cracks: If the crack is offset in surface plane by more than 1/8 inch, dismantle the plaster on each side of the crack, a minimum width of 6 inches and down to the lath or other substrate. Then, repair as specified for flat-plaster removal and replacement.

3.10 REATTACHMENT OF DELAMINATED PLASTER

A. General: Reattach plaster that has detached from its wooden lath at locations indicated on Drawings.

1. Notify Architect of undocumented detrimental conditions including cracks, bulges, loose backup, rotted wood, rusted metal, and other deteriorated items.
2. Maintain adjacent plasterwork in an undamaged condition so far as practicable.

B. Verify extent of detachment of plaster that has not yet fallen by tapping on plaster surface and evaluating the hollow or solid resonance.

C. Protect floors from spillage and debris in the vicinity of work. Use materials resistant to the passage of fluids used in work.

D. Drill 1/4-inch injection ports (holes) through the plaster spaced 3 to 6 inches apart over surface of detached plaster. Dislodge loose plaster particles, and vacuum debris from holes.

E. Prewet injection ports, gaps at edges of lost plaster, back of plaster, and wooden lath with prewet solution.

F. Inject adhesive into ports, enough to fill gaps between detached plaster and lath, and inject into gaps at edges of lost plaster.

G. Clean off excess and smeared adhesive while wet.

H. Apply temporary battens over surface of treated plaster to prevent further separation during repair work. Secure battens in place against plaster with screws through the battens and plaster and into the wood lath.

I. Maintain temporary battens in place for a week or more, allowing adhesive to coalesce and dry.

J. Remove battens, patch holes and missing plaster, and repair cracks.

3.11 INSTALLATION TOLERANCES

A. Completed plaster installation shall not deviate from a true plane by more than 1/8 inch as measured by a 5-foot straightedge placed at any location on a surface, except where existing plaster is retained as a substrate for new plasterwork.

3.12 CLEANING AND PROTECTION

A. Protect work of other trades against damage. Promptly remove plaster from surfaces not indicated to be repaired or plastered. Do not scratch or damage finished surfaces.

B. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged during plastering.

C. Correct damage to other historic surfaces and to new work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. Remove temporary protection and enclosure of other work.

END OF SECTION

SECTION 09 31 00

CERAMIC TILE

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Special shape tile trim for wall base conditions.

B. Accessory materials.

C. Sealants for movement joints between tiles.

1.02 RELATED SECTIONS

A. Division 01 Section Product Requirements for substitution procedures.

B. Division 07 Section "Joint Sealants" for sealants used for expansion, contraction, control, and isolation joints in tile surfaces.

1.03 SUBMITTALS

A. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.

B. Samples:

1. Three (3) Tile Base units
2. Three (3) Grout samples; 2-inch minimum length each.

1.04 QUALITY ASSURANCE

A. General: Definitions in the ANSI A108 series of tile installation standards and in ANSI A137.1 apply to Work of this Section unless otherwise specified.

B. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum 5 years of documented experience.

C. Installer Qualifications: Company specializing in performing tile installation, with minimum of 5 years of documented experience.

D. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from one manufacturer and each aggregate from one source or producer.

1.05 PERFORMANCE REQUIREMENTS

A. Ceramic tile shall be as defined in, and shall conform to the requirements of, ANSI A137.1.

B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced

by TCNA installation methods specified in tile installation schedules, and other requirements specified.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.07 ENVIRONMENTAL REQUIREMENTS

A. Do not install adhesives in an unventilated environment.

B. Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

1.08 EXTRA MATERIALS

A. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Tile and Trim Units: Furnish quantity of full-size units equal to 10 percent of amount installed for each type, composition, color, pattern, and size indicated.
2. Grout: Furnish quantity of grout equal to 10 percent of amount installed for each type, composition, and color indicated.

1.09 WARRANTY

A. Setting materials shall be provided by one of the manufacturers listed as part of a single source listed in this specification.

B. Products shall be provided with listed manufacturer as part of a two-year systems warranty.

PART 2 - PRODUCTS

2.01 TILE

A. Manufacturers: All products to match the existing ceramic base tile and grout within the facility toilet rooms.

B. Provide setting and grouting materials per the TCNA 2015/2016 Handbook Method that is in accordance with tile manufacturer’s recommendations.

C. Manufacturers:

1. Basis of Design: Daltile.
2. Other acceptable manufacturers:
   a. Mosaic Commercial
   b. American Olean.
   c. Crossville.

D. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of existing sanitary cove base. Provide shapes as follows, selected from manufacturer's standard shapes:

1. Sanitary Cove Base: module size 4 inch long by 4-inch high.
2. Top: Standard round or Universal flat.
3. Thickness: 3/8-inch thick

2.02 SETTING MATERIALS

B. Over Plaster: Thin Set Latex-Portland Cement Mortar ANSI A118.4.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Versa Bond Professional Mortar by Custom Building Products or one of the following:
   a. Mapei Corp; Ultra Flex 2
   b. Laticrete Int'l; 253 Gold
2. Provide prepackaged, dry-mortar mix containing dry, redispersible, vinyl acetate or acrylic additive to which only water must be added at Project site.
3. For wall applications, provide mortar that complies with requirements for nonsagging mortar in addition to the other requirements in ANSI A118.4.

2.03 GROUT MATERIALS

A. Epoxy Grout: ANSI A118.3. A two-component epoxy system that combines a pigmented hardener with epoxy resins and recycled aggregates.

1. Basis-of-Design Product: Subject to compliance with requirements and exact color match, provide CEG-Lite 100% Solids Commercial Grade Epoxy Grout by Custom Building Products, or equal by one of the following:
2. Mapei Corp.
3. Laticrete Int'l

B. ACCESSORY MATERIALS

C. Patching Compounds for masonry walls and concrete floors: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.

1. Basis-of-Design Products: Subject to compliance with requirements provide Skim Coat N Patch by Custom Building Products or equal by one of the following.
2. Mapei Corp.
3. Laticrete Int'l.

D. Joint sealant: Use One Part Mildew Resistant Silicone Sealant; ASTM C920, Type S, Grade NS, Class 25, Use NT, M, A, and O for sealing of expansion, contraction, control, and isolation joints in tile surfaces.

1. Basis-of-Design Products: See Division 7 "Joint Sealants" for product specifications.

E. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that sub-floor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.

C. Verify that sub-floor surfaces are dust-free and free of substances which would impair bonding of setting materials to sub-floor surfaces.

D. Verify that required floor-mounted and wall-mounted items are in correct locations.

3.02 PREPARATION

A. Protect surrounding work from damage.

B. Remove all traces of existing tile, setting beds, lath, grouts, sealants and accessories.

C. Grind masonry and cementitious surfaces smooth. Patch as necessary for a suitable surface to receive new tile.

D. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thin-set mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.

E. Level existing substrate surfaces to acceptable flatness tolerances.

F. Prepare substrate surfaces for adhesive installation in accordance with setting material manufacturer's instructions.

3.03 INSTALLATION - GENERAL

A. Install tile and thresholds and grout in accordance with applicable requirements of ANSI A108.1 through A108.13, manufacturer's instructions, and TCNA Handbook recommendations.

B. Match existing tile patterns and layouts.

C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.

D. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

E. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar, or excess grout.

F. Jointing Pattern: Lay tile in grid pattern, unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.

1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.

2. Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be same size, align joints.

3. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor, base, walls, or trim, align joints unless otherwise indicated.

G. Form internal angles square. External angles receive bullnose trim units.

H. Ensure a minimum of 90% contact between mortar and tile.

I. Sound tile after setting. Replace hollow sounding units.

J. Keep control joints free of adhesive or grout. Apply sealant to joints.

K. Allow tile to set for a minimum of 48 hours prior to grouting.

L. Grout tile joints.

3.04 SEALANTS

A. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.

3.07 CLEANING

A. Coordinate cleaning program with General Contractor. No cleaning products or solvents containing volatile organic compound (VOC's) are permitted within the building.

B. On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.

C. Remove epoxy and latex-portland cement grout residue from tile as soon as possible.

D. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.

E. Remove temporary protective coating by method recommended by coating manufacturer and that is acceptable to tile and grout manufacturer. Trap and remove coating to prevent drain clogging.

F. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors.

G. Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.

3.08 SEALING

A. Seal all grout surfaces.

3.09 PROTECTION OF FINISHED WORK

A. Do not permit foot or wheel traffic over finished floor surface for seven (7) days after installation.

END OF SECTION

SECTION 09 91 00

PAINTING AND COATING

1.01 SUMMARY

A. Scope:
1. Provide all material, labor and equipment to produce painted and finished surfaces as shown and scheduled and as specified herein, to provide properly finished surfaces throughout. This SECTION, in conjunction with the color/finish schedules on the DRAWINGS or in the SPECIFICATIONS or issued separately, establishes the scope of the painting work, the surfaces to be painted, and the paint systems to be used.
2. Interior items and surfaces that are exposed.
3. Surface preparation, priming, and finishes in addition to shop primers and treatment of surfaces specified elsewhere.
4. Do not paint exposed surface where the paint, color or room finish schedules indicate that a surface is not to be painted or remain natural.
5. If the paint, color or room finish schedule does not identify a surface or item to be painted, paint the surface or item the color and finish of adjacent surfaces and materials, even if the schedules do not indicate finish or color. Verify color and finish with Architect.
6. Seal internal joints between wall and wood trim around doors and windows prior to painting.

1.02 REFERENCES

A. Material Safety Data Sheets / Environmental Data Sheets: Per manufacturer's MSDS/EDS for specific VOCs (calculated per 40 CFR 59.406). VOCs may vary by base and sheen.

1.03 SUBMITTALS

A. Submit under provisions of Section 01 34 00 - Submittals.

B. Product Data: For each paint system indicated, including.
1. Product characteristics.
2. Surface preparation instructions and recommendations.
3. Primer requirements and finish specification.
4. Storage and handling requirements and recommendations.
5. Application methods.
6. Cautions for storage, handling and installation.

C. Verification Samples: For each finish product specified, submit samples that represent actual product, color, and sheen.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: A firm or individual experienced in applying paints and

coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

B. Mock-Up: Use existing interior walls to provide 2-f-foot by 2-foot minimum size sample areas for evaluation of color match and application workmanship.
   1. Finish surfaces for verification of products, colors and sheens.
   2. Provide samples that designate primer and finish coats.
   3. Do not proceed with remaining work until the Architect approves the mock-up.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver manufacturer's unopened containers to the work site. Packaging shall bear the manufacturer's name, label, and the following list of information.
   1. Product name, and type (description).
   2. Application and use instructions.
   3. Surface preparation.
   4. VOC content.
   5. Environmental handling.
   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.

C. Store materials in an area that is within the acceptable temperature range, per manufacturer's instructions. Protect from freezing.

D. Handling: Maintain a clean, dry storage area, to prevent contamination or damage to the coatings.

1.06 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.07 EXTRA MATERIALS

A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.

B. Furnish Owner with an additional one percent of each material and color, but not less than 1 gal (3.8 l) or 1 case, as appropriate.

PART 2 PRODUCTS

2.71 MANUFACTURERS

A. Acceptable Manufacturers
   1. The Sherwin-Williams Company (Basis of Design)
   2. PPG Paints
   3. Benjamin Moore

2.02 APPLICATIONS/SCOPE

A. Interior Paints and Coatings:
   1. Concrete: Poured, precast, tilt-up, cast-in-place, cement board, plaster.
   2. Masonry: Concrete masonry units, including split-face, scored, and smooth block.
   3. Metal: Aluminum, galvanized steel.

2.03 PAINT MATERIALS - GENERAL

A. Paints and Coatings:
   1. 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.
   2. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color. Or follow manufactures product instructions for optimal color conformance.

B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.

C. Coating Application Accessories: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required, per manufacturer's specifications.

D. Color: Match existing paint colors.

2.04 INTERIOR PAINT SYSTEMS

A. PAINTED PLASTER - Walls and Ceilings,.
   1. Vinyl-Acrylic Systems (Water Based):
      a. Egg-Shell / Satin Finish:
         1) 1st Coat: S-W Loxon Concrete & Masonry Primer Sealer, LX02W50 (8 mils wet, 3.2 mils dry).
         2) 2nd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series.
         3) 3rd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series (4 mils wet, 1.7 mils dry per coat).

B. UNPAINTED PLASTER: CMU - Concrete, Split Face, Scored, Smooth, High Density, Low Density, Fluted.
   1. Vinyl-Acrylic Systems (Water Based):
      a. Egg-Shell / Satin Finish:
         1) 1st Coat: S-W Extreme Bond, B51W1150 (8 mils wet, 3.2 mils dry).
         2) 2nd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series.
         3) 3rd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series (4 mils wet, 1.7 mils dry per coat).

E. DRYWALL - Ceilings
   1. Latex Systems:
      d. Flat Finish:
         1) 1st Coat: S-W Extreme Block Cover Stain Blocking Low VOC Waterbased Primer, B51W00100 (4 mils wet, 1.5 mils dry).
         2) 2nd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series.
         3) 3rd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series (4 mils wet, 1.6 mils dry per coat).

PART 3 EXECUTION

3.121 EXAMINATION

A. Do not begin installation until substrates have been properly prepared; notify Architect of unsatisfactory conditions before proceeding. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

B. Proceed with work only after conditions have been corrected and approved by all parties, otherwise application of coatings will be considered as an acceptance of surface conditions.

C. Previously Painted Surfaces: Verify that existing painted surfaces do not contain lead based paints, notify Architect immediately if lead based paints are encountered.

3.02 SURFACE PREPARATION

A. General: Surfaces shall be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good adhesion.
   1. Prior to attempting to remove mildew, it is recommended to test any cleaner on a small, inconspicuous area prior to use. Bleach and bleaching type cleaners may damage or discolor existing paint films. Bleach alternative cleaning solutions are advised.
   2. 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 before painting. Wear protective glasses or goggles, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact

with your skin. Do not add detergents or ammonia to the bleach/water solution.

3. Remove items including but not limited to thermostats, electrical outlets, switch covers and similar items prior to painting. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
4. No exterior painting should be done immediately after a rain, during foggy weather, when rain is predicted, or when the temperature is below 50 degrees F (10 degrees C), unless products are designed specifically for these conditions. On large expanses of metal siding, the air, surface and material temperatures must be 50 degrees F (10 degrees F) or higher to use low temperature products.

B. Drywall - Interior: Must be clean and dry. All nail heads must be set and spackled. Joints must be taped and covered with a joint compound. Spackled nail heads and tape joints must be sanded smooth and all dust removed prior to painting.

C. Plaster: Must be clean and free of contaminants, laitance, and any loose material. If recommended procedures for applying plaster are followed, and normal drying conditions prevail, the surface may be painted in 30 days. The pH of the surface should be between 6 and 9, unless the products are designed to be used in high pH environments.

3.03 INSTALLATION

A. Apply all coatings and materials with the manufacturer's specifications in mind. Mix and thin coatings according to manufacturer's recommendations.

B. Do not apply to wet or damp surfaces. Wait at least 30 days before applying to new concrete or masonry. Or follow manufacturer's procedures to apply appropriate coatings prior to 30 days. Test new concrete for moisture content. Wait until wood is fully dry after rain or morning fog or dew.

C. Apply coatings using methods 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. Regardless of number of coats specified, apply as many coats as necessary for complete hide, and uniform appearance.

G. Inspection: The coated surface must be inspected and approved by the Architect just prior to the application of each coat.

3.05 SEALANTS

A. Install a coved bead of sealant along edges of all millwork that abuts painted surfaces.

3.05 PROTECTION

A. Protect finished coatings from damage until completion of project.

B. Touch-up damaged coatings after substantial completion, following manufacturer's recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

END OF SECTION

SECTION 26 27 26

WIRING DEVICES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Wall switches.

B. Receptacles.

C. Device plates and decorative box covers.

D. Comply with UL 467 for grounding and bonding materials and equipment.

1.03 REFERENCE STANDARDS

A. NECA 1 - Standard Practices for Good Workmanship in Electrical Contracting; National Electrical Contractors Association; 2006.

B. NEMA WD 1 - General Color Requirements for Wiring Devices; National Electrical Manufacturers Association; 1999 (R 2005).

C. NEMA WD 6 - Wiring Device -- Dimensional Requirements; National Electrical Manufacturers Association; 2002.

D. NFPA 70 - National Electrical Code; National Fire Protection Association; 2017.

1.04 SUBMITTALS

A. Product Data: Provide manufacturer's catalog information showing dimensions, colors, and configurations.

B. Provide products listed and classified by Laboratories Inc. as suitable for the purpose specified and indicated.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Cooper Wiring Devices: www.cooperwiringdevices.com.

B. GE Industrial: www.geindustrial.com.

C. Leviton Manufacturing, Inc: www.leviton.com.

2.02 WALL SWITCHES

A. Wall Switches: Heavy Duty, AC only general-use snap switch, complying with NEMA WD 6 and WD 1.

1. Body and Handle: Light Ivory plastic with toggle handle.

2. Ratings:
   a. Voltage: 120 - 277 volts, AC.
   b. Current: 20 amperes minimum.

B. Switch Types: Single pole, double pole, and 3-way.

2.03 RECEPTACLES

A. Receptacles: Heavy duty, complying with NEMA WD 6 and WD 1.

1. Device Body: Light Ivory, plastic.

2. Configuration: NEMA WD 6, type as specified and indicated.

B. GFCI Receptacles: Convenience receptacle with integral ground fault circuit interrupter to meet regulatory requirements. Grey plastic

2.04 WALL PLATES

A. Decorative Cover Plates: Smooth stainless steel.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that wall openings are neatly cut and will be completely covered by wall plates.

B. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.

3.02 PREPARATION

A. Provide extension rings to bring outlet boxes flush with finished surface.

B. Clean debris from outlet boxes.

3.03 INSTALLATION

A. Install securely, in a neat and workmanlike manner, as specified in NECA 1.

B. Install devices plumb and level.

C. Install switches with OFF position down.

D. Install wall dimmers to achieve full rating specified and indicated after derating for

ganging as instructed by manufacturer.

E. Do not share neutral conductor on load side of dimmers.

F. Install receptacles with grounding pole on top.

G. Connect wiring device grounding terminal to outlet box with bonding jumper.

H. Install decorative plates on switch, receptacle, and blank outlets in finished areas.

I. Connect wiring devices by wrapping conductor around screw terminal.

3.04 FIELD QUALITY CONTROL

A. Inspect each wiring device for defects.

B. Operate each wall switch with circuit energized and verify proper operation.

C. Verify that each receptacle device is energized.

D. Test each receptacle device for proper polarity.

3.05 ADJUSTING

A. Adjust devices and wall plates to be flush and level.

3.06 CLEANING

A. Clean exposed surfaces to remove splatters and restore finish.

END OF SECTION

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